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CURTIS'S
BOTANICAL MAGAZINE;

OR

Flower Garden Displayed:

In which the most Ornamental FOREIGN PLANTS cultivated in the Open Ground,
the Green-House, and the Stove, are accurately represented and coloured.
To which are added,
THEIR NAMES, CLASS, ORDER, GENERIC AND SPECIFIC CHARACTERS,
ACCORDING TO THE SYSTEM OF LINNÆUS;
Their Places of Growth, Times of Flowering, and most approved
Methods of Culture.

CONDUCTED
By SAMUEL CURTIS, F. L. S.
THE DESCRIPTIONS
By WILLIAM JACKSON HOOKER, L. L. D.
F. R. A. and L. S. and Regius Professor of Botany in the University
of Glasgow.

VOL. V.
OF THE NEW SERIES;
Or Vol. LVIII. of the whole Work.

> "Tantôt la nouveauté
> Embellit les objets; tantôt leur déclin même
> Aux objets fugitifs prête un charme qu'on aime:
> Le cœur vole au plaisir que l'instant a produit,
> Et cherche à retenir le plaisir qui s'enfuit."

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1831.

SHOUT
SHARE
IT

TO HIS GRACE

JOHN, DUKE OF BEDFORD, &c. &c.

A NOBLEMAN

NO LESS DISTINGUISHED FOR HIS PRIVATE

THAN HIS PUBLIC VIRTUES,

AND WHO, BY THE VARIOUS SPLENDID WORKS WHICH HE HAS

FOSTERED, PATRONIZED AND PUBLISHED,

HAS EMINENTLY

DESERVED WELL OF BOTANY AND THE ARTS,

THE PRESENT VOLUME

IS DEDICATED,

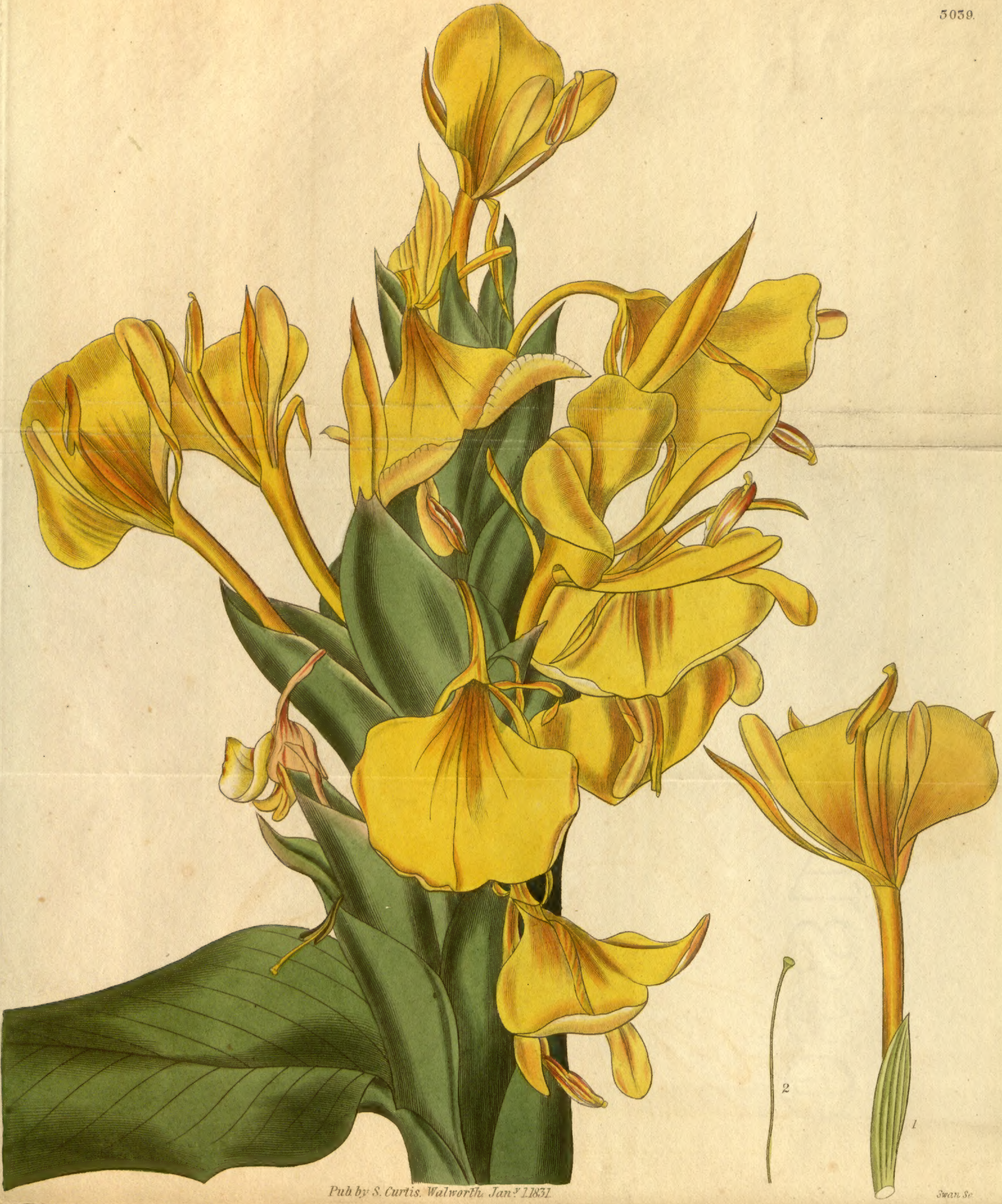
BY HIS FAITHFUL

AND VERY OBEDIENT HUMBLE SERVANT,

W. J. HOOKER.

GLASGOW, Dec. 1, 1831.

3039.



Pub by S. Curtis, Walworth Jany 1.1831.

Swan Sc

HEDYCHIUM FLAVUM. LARGE YELLOW-FLOWERED HEDYCHIUM.

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Class and Order.

MONANDRIA MONOGYNIA.

(Nat. Ord.—SCITAMINEÆ. *Br.*)

Generic Character.

Anthera duplex, stylum amplectens. *Filamentum* longum, gracile, antheram in apicem sustinens ligamento flexili dorso affixo. *Capsula* 3-locularis. *Semina* numerosa, arillata. *Rosc.*

Specific Character and Synonyms.

HEDYCHIUM *flavum;* foliis lato-lanceolatis, spica terminali imbricata, bracteis subquadrifloris, corollæ, laciniis duabus interioribus linearibus, labello obcordato apice profunde retuso. *Roxb.*

HEDYCHIUM flavum*. *Roxb. Fl. Ind. v.* 1. *p.* 81. (cum nota Wallichii ad calcem paginæ 82). *Lodd. Bot. Cab. t.* 604. *Spreng. Syst. Veg. v.* 1. *p.* 9. *cur. post. p.* 6. *Rosc. Pl. Scit. cum ic.*

DESCR. *Roots* exceedingly large and thick. *Stems* several, thick, four to five feet high, at the bottom fully an inch in diameter, slightly compressed upwards, and there, as well as on the rib of the leaves, furnished, though scantily, with long, appressed, deciduous hairs. *Leaves* very large, elliptical, twelve to fourteen inches long, as broad as one's hand, nearly sessile on their sheaths, sides bent down, upper

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* Not of SIMS in Botanical Magazine, t. 2378, which is HED. *flavescens. (Wall.)*

per surface glabrous, pale beneath; the lowermost leaves shorter. *Sheaths* ample, with a membranous margin, elegantly lineated, and having a large, obtuse, appressed *ligule.* *Spike* terminal, large, shorter than the uppermost leaves, consisting of loosely imbricated, coriaceous, broad, ovate, smooth, four-flowered *bracteas,* each about three inches long; inner bracteas thin and membranaceous, much smaller than the outer ones. *Flowers* very large; orange-coloured, highly fragrant. *Calyx* two inches long, oblong at the upper end, subventricose and split on one side, mouth bearded, entire. *Tube* of the *Corolla* cylindrical, two inches and a half long, double the length of the calyx; *limb* spreading; exterior laciniæ linear, acute, loosely patent, about fourteen lines long; inner two (or lateral ones) cuneate, unguiculate, rather shorter than the outer ones, but their apex much broader than those, shortly clawed. *Lip* very large, roundish, retuse, lateral margins sometimes notched, an inch and a half in diameter, furnished with a short, broad claw. *Filament* divaricate, thick, semicylindrical, orange-coloured, equalling in length the inner *petals,* rather, though very little, shorter than the lip. *Anther* oblong, thick, fleshy, half an inch long, with a sagittate, bilobate base, the lobes of which are slenderish. *Ovary* thick, ovate, obscurely triangular, shining, smooth: *Style* filiform, pallid, with the usual two short, yellow bodies at its base (within the tube): *Stigma* rather large, clavate, compressed, transverse, obtuse and convex, greenish-yellow, villous. *Wallich.*

The present is one among many fine plants, for specimens and drawings of which I have again to acknowledge myself indebted to W. T. AITON, Esq. A root of HEDYCHIUM *flavum* was brought by Dr. WALLICH from India, in August, 1828, and presented by the Hon. the East India Company to Kew Gardens, where it produced its magnificent blossoms in the same month of the present year.

The specimen was received through Dr. WALLICH, and that most enlightened and most liberal of Botanists, notwithstanding his numerous and important engagements, has been so kind as to draw up the above account of it for me, although there is already an accurate description in Flora Indica; partly, as he says, because he never saw the plant in such perfection before, as it was produced at Kew, and partly, because it seems possible, that the roots may have been derived from the mountains on the

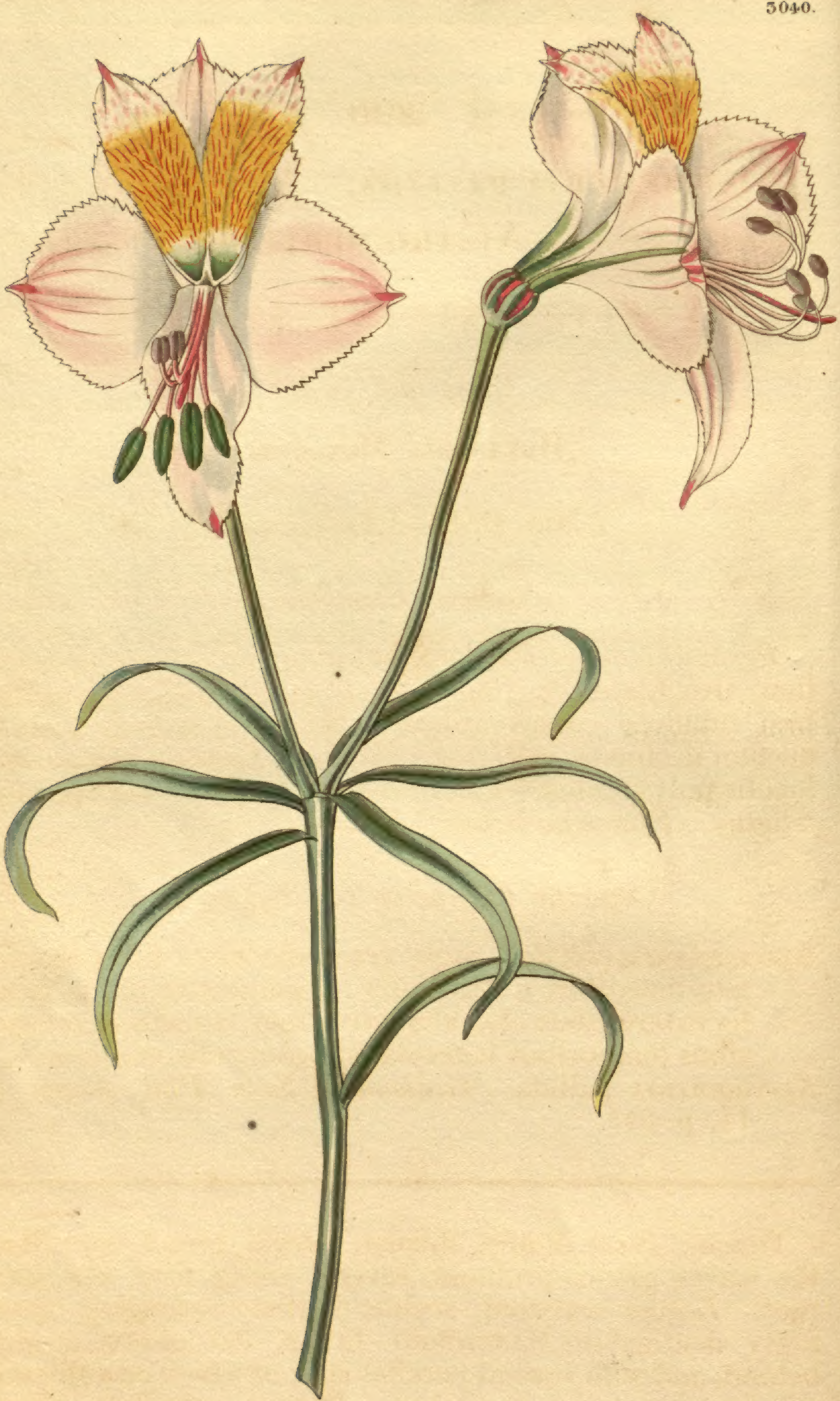
Irawaddi, in the Burma country, where he collected some; whereas, the specimens described in Flora Indica came from Sylhet.

Dr. WALLICH's note in the Flora Indica is as follows:

In January, 1816, I received roots of this most charming species from Mr. SMITH, at Sylhet, which produced blossoms in the Botanic Garden, during October of the following year. It differs from H. *coronarium,* in regard to its flowers, which are about one-third smaller, having the inner segments of the corolla linear-clavate, the fissure of the lip narrow, with straight sides, and its base contracted into a linear claw. They partake not only of the yellow colour of those of MICHELIA *Champaca,* but possess even the peculiar fragrance of the latter, only in a less powerful, and therefore, more grateful degree. In stature and leaves both species are alike."

Fig. 1. Flower. 2. Style and Stigma.—*Nat. size.*

3040.



Dr. Greville delt.

Pub. by S. Curtis. Walworth. Jany. 1.1831.

Swan Sc.

ALSTRŒMERIA PALLIDA. PALE-FLOWERED ALSTRŒMERIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AMARYLLIDEÆ.)

Generic Character.

Perianthium corollaceum, subcampanulaceum, sexpartitum, irregulare ; laciniis duabus (vel-tribus) interioribus basi tubuloso-conniventibus. *Stam.* 6, laciniis inserta, demum declinata. *Stigma* trifidum. *Capsula* trilocularis, loculis polyspermis.—Caulis *erectus, scandens aut volubilis, foliatus*. Flores *umbellati.* Kunth.

Specific Character and Synonym.

ALSTRŒMERIA *pallida ;* caule erecto-flaccido, foliis lanceolato-linearibus denticulatis subamplexicaulibus, petalis exterioribus obovatis lateralibus latioribus, interioribus longioribus lanceolatis, pedunculis unifloris.

ALSTRŒMERIA pallida. *Graham in Edin. Phil. Journ. v.* 14. *p.* 345.

DESCR. *Stem* simple, slender, flaccid, round, as well as the leaves glauco-pruinose, several rising from the same root. *Leaves* scattered, sessile, half-stem-clasping, sparingly denticulate, lanceolato-linear, flat above, keeled behind, and with several parallel ribs, of which one on each side is stronger than the others. *Flowers* umbellate. *Perianth* of six unequal segments, attenuated, succulent, and channelled and nectariferous at the base; four outer segments of an uniform, very pale rose colour, much reticulated, nearly of equal length, obovate, the lowest the narrowest and most pointed, and much the least attenuated at the base, the two lateral ones the largest, denticulated, all slightly acuminated in the middle, the two inner segments longer than the others, lanceolate, having denticulate wings towards their bases, of the same colour as the outer segments at their apices, lower down being marked with reddish veins, above the middle on a yellow, below it on a pink ground, at the lower part of which there are a few oblong orange spots. *Stamens* six; *filaments* as long as the outer segments of the perianth, and of a similar colour, flattened, at the base triangular, and glanduloso-pubescent, twisted when decaying: *anthers* erect, large, cordate, flattened, mucronulate: *pollen* pale brown, discharged in the same way as in the other plants of this Genus. *Stigmas* three, revolute, pink: *style* three-cornered, tapering upwards from its greenish, persisting base; colourless below, becoming pink towards the stigmas: *Germen* as in A. *pelegrina.*

This remarkably beautiful species, the colours of whose inflorescence harmonize together more than in any other cultivated ALSTRŒMERIA, blossomed first in the collection of Mr. NEILL, at Canonmills, in July, 1829. *Graham.*

I am indebted to Dr. GREVILLE for the drawing here figured.

3041.

W.J.H. delt

Pub. by S. Curtis, Walworth, Jan.y 1. 1831.

Swan Sc.

GESNERIA BULBOSA. BULBOUS-ROOTED GESNERIA.

****

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—GESNERIÆ. *Rich.*)

Generic Character.

Cal. 5-partitus (plerumque germini adnatus). *Cor.* tubuloso-campanulata, limbo bilabiato; labio superiore bi-, inferiore trifido. *Stigma* bilobum. *Capsula* bilocularis, bivalvis, placentis parietalibus.

Specific Character and Synonyms.

GESNERIA * *bulbosa;* pubescenti-tomentosa, foliis oppositis cordato-ovatis crenato-serratis, panicula terminali, corollæ labio superiore longissimo bifido recto, inferiore minuto reflexo.

GESNERIA bulbosa. *Ker in Bot. Reg. t. 343. Spreng. Syst. Veget. v. 2. p. 839.*

DESCR. *Root,* or rather root-stalk, a rounded, large tuber. *Stem* erect, herbaceous, downy, simple, in our plant two to three feet high. *Leaves* opposite, shortly petioled, cordato-ovate, downy, especially beneath, glaucous-green. *Panicle* terminal, of many large and splendidly-coloured scarlet *flowers. Bracteæ* cordate. *Calyx* five-cleft, the segments short, linear, subulate. *Corolla* three inches long, tubular, enlarged upward, contracted just below the base, the very base five-lobed, and remarkably inflated, orange-yellow, while the rest of the corolla is of a bright scarlet, clothed with a fine down. *Stamens* inserted near the base of the corolla: *Filaments* arched upwards and meeting, so that their anthers form a cross. *Germen* more than half superior, downy. *Style* shorter than the stamens. *Stigma* obtuse.

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* Named in honour of CONRAD GESNER, a celebrated Physician and Botanist, and a native of Switzerland.

This fine plant is a native of Brazil, and was, we believe, first introduced to the stoves of our gardens by Mr. CHAMBERLAYNE, our late Consul at Rio Janeiro, who also brought into notice the beautiful BIGNONIA that bears his name. It has since been imported through other channels, and is now, probably, not uncommon. The specimen here figured, bloomed in the Glasgow Botanic Garden, in the spring of 1830. J. T. MACKAY, Esq. has also lately sent us fine flowering specimens from the College Botanic Garden, Dublin.

Fig. 1. Calyx and Pistil, slightly *magnified*.

3042.

W J H del^t

Pub. by S. Curtis Walworth, Jan^y 1.1831.

(3042)

SPHENOGYNE CRITHMIFOLIA. SAMPIRE-LEAVED SPHENOGYNE.

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Class and Order.

SYNGENESIA POLYGAMIA FRUSTRANEA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Receptaculum paleis distinctis. *Pappus* paleaceus, simplex. *Stigmata* apice dilatato subtruncato. *Calyx* imbricatus: squamis intimis (omnibusve) apice dilatato scarioso. *Brown.*

Specific Character and Synonyms.

SPHENOGYNE* *crithmifolia;* fruticosa, foliis bipinnatifidis pinnatifidisque laciniis subulatis mucronatis carnosis verrucoso-glandulosis nitidis, pedunculis terminalibus longissimis unifloris, anthodio glabro, squamis interioribus obtusis scariosis, exterioribus subulatis.

SPHENOGYNE crithmifolia. *Brown in Hort. Kew. ed. 2. v. 5. p.* 142.

ARCTOTIS paleacea. *Linn. Sp. Pl. p.* 1307. *Willd. Sp. Pl. v. 3. p.* 2359.

ARCTOTIS crithmoides. *Berg. Cap. p.* 326.

URSINIA crithmifolia. *Spreng. Syst. Veget. v. 3. p.* 609.

DESCR. *Stem* woody, short, much branched; *branches* red, erect. *Leaves* erect, once, or rarely twice, pinnatifid, fleshy, channelled both above and below, as well as the branches glanduloso-verrucose, shining; *segments* ascending, subulate, each terminated by a slighly hooked mucro. *Peduncles*

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* From σφην, *a wedge,* and γυνη, *a female.* Sir JAMES E. SMITH supposes in allusion to the wedge-shaped Stigma.

cles terminal, erect, very long, single flowered, having many slender grooves, and one or two subulate bracteas. *Anthodium* nearly globular, when in bud glabrous, coloured, inner scales blunt, scariose, slender, coloured at the apex, outer ones subulate, keeled, and reddish brown. *Flowers* (above three-fourths of an inch long, one inch across) rather handsome, yellow. *Florets of the ray* neuter, numerous, erect, subplicate, orange-red on the outside, and sprinkled with shining dots, yellow within, elliptical, attenuated at the base, and there distant; *tube* short, including the rudiments of a style, three-toothed at the apex. *Florets of the disk* very short, yellow, erect, regular, terminating in five blunt teeth, and furnished with small, erect, crystalline, glandular pubescence on the outside. *Stamens* subexserted, yellow. *Pistil* rather longer than the stamens; *Style* cleft, revolute; *Germen* woolly at the base: *Pappus* marginate, lobed. *Receptacle* covered with carinate, chaffy scales, which are shorter than the florets of the disk.

We received this plant from Kew as a species of ARCTOTIS, native of the Cape of Good Hope. It requires the protection of a greenhouse during Winter, and flowers freely in the open air during the month of July. GRAHAM.

Fig. 1. Central Floret with its accompanying Scale. 2. Floret of the Ray.—*Magnified.*

W. J. H. delt · Pub. by S. Curtis Walworth. Jan^y. 1.1831. Swan Sc.

URENA LOBATA. ANGULAR-LEAVED URENA.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Calyx cinctus involucello 5-fido, nempè foliolis 5 ad medium coalitis. *Antheræ* in apice tubi staminei. *Carpella* capsularia 5, conniventia, 1-sperma, extus aculeis apice radiatis sæpissime echinata.—Folia *subtus in nervis sæpius glandulosa.*

Specific Character and Synonyms.

URENA * *lobata;* foliis subrotundis obtusissime 3—5-lobis, subtus precipua molliter velutinis 3—5-nerviis uniglandulosis, laciniis calycinis oblongo-lanceolatis.

URENA lobata. *Linn. Sp. Pl. p.* 974. *Willd. Sp. Pl. v.* 3. *p.* 800. *Cav. Diss.* 6. *p.* 336. *t.* 185. *f.* 1. *Ait. Hort. Kew. ed.* 2. *v.* 4. *p.* 222. *De Cand. Prodr. v.* 1. *p.* 441. *Spreng. Syst. Veget. v.* 3. *p.* 96. *Saint Hil. Pl. Us. Brasil. t.* 56.

URENA sinica, xanthii facie. *Dill. Hort. Elth. p.* 340. *t.* 319. *f.* 412.

DESCR. A *shrub,* from two to four feet high, every where downy. *Leaves* alternate, roundish, three to five-lobed, and about as many nerved, the upper ones less divided, green, below very downy and almost white, having at the very base just above the insertion of the petiole, a yellowish-green ish-green gland. *Flowers* solitary, axillary, on short peduncles. *Calyx* five-cleft, glabrous, surrounded by a five-cleft, downy involucre. *Corolla* of five, somewhat wedge-shaped *petals,* combined at the base, of a delicate rose-colour, streaked, and having a dark purple ring at their base. *Staminiferous tube* with many anthers. *Stigmas* many. *Fruit* consisting of five *carpels,* which surround the base of the style, each clothed with long, soft papillæ, stellato-pilose at their extremity. *Seed* single in each carpel, oblong, fixed to the inner angle of the cell.

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* From *Uren,* its Malabar name, according to ADANSON.

A native of China, whence the seeds were communicated to the Glasgow Botanic Garden, by CHARLES MILLETT, Esq. It is unquestionably the U. *lobata* of LINNÆUS and of DILLENIUS. AUGUSTE ST. HILAIRE considers it a native of Brazil, and seems disposed to rank the U. *heterophylla, Swartzii, scabriuscula,* and *tricuspis,* as mere varieties of U. *lobata.*

In common with the rest of the *Mallow* tribe, but in an inferior degree to many, this plant possesses emollient and mucilaginous qualities, which have obtained it a place among the medicinal productions of Brazil.

It flowered with us, in the stove, during the month of July.

Fig. 1. Calyx and Involucre. 2. Section of a Carpel. 3. Papilla from the Capsule.—*Magnified.*

Dr. Grevill.del.

Pub. by S. Curtis Walworth. Jan. 1. 1831.

Swan Sc.

SCHIZANTHUS GRAHAMII. DR. GRAHAM'S SCHIZANTHUS.

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Corolla irregularis, labio superiore quinquefido, inferiore tripartito. *Stamina* 2 antherifera, 2 sterilia, filamentis villosis. *Capsula* bilocularis.

Specific Character.

SCHIZANTHUS* *Grahamii;* corollæ tubo calycem æquante limbo duplo breviore, labii inferioris laciniis lateralibus centralem æquantibus, centrali bifido, labii superioris lobo medio ovato-acuminato, pedicellis fructiferis erectis. *Gillies MSS.*

SCHIZANTHUS Grahamii. *Gillies MSS.*

In addition to the two SCHIZANTHI already given in most of our botanical periodical publications, two species have lately been raised from seeds brought from Chili by Dr. GILLIES, in the garden of Mrs. BOOG, at Portobello; the subject of the present plate, with which we have been favoured with a drawing by Dr. GREVILLE, and one, the S. *Hookeri* of its discoverer, hereafter to be figured: and if we are correct in considering the SCHIZANTHUS represented in the following plate as a distinct species, a third additional kind is now known to us.

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* From σχιζω, *to cleave*, and ανθος, *a flower*, in reference to the divisions of the corolla.

In all, there exists a considerable general similarity in their mode of growth and foliage. The present is distinguished from those hitherto described by the structure of its flowers: which both in colour and shape are very different from S. *pinnatus* and S. *porrigens*.

Fig. 1. Root-leaf.—*Nat. size.*

W.J.H. del

Pub by S. Curtis Walworth Jan^y 1 1831

(3045)

SCHIZANTHUS RETUSUS. BLUNT-PETALED SCHIZANTHUS.

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Corolla irregularis, labio superiore quinquefido, inferiore tripartito. *Stamina* 2 antherifera, 2 sterilia, filamentis villosis. *Capsula* bilocularis.

Specific Character.

SCHIZANTHUS *retusus;* corollæ tubo brevi, labii inferioris laciniis lateralibus intermedio bifido brevioribus, labii superioris lobo medio subrhomboideo obtusissimo emarginato.

This SCHIZANTHUS was raised by Mr. BARCLAY at Bury Hill, where it flowered in June of the present year, from seeds sent by Dr. GILLIES from Chili.

It is remarkable for the large and deep orange-coloured spot in the intermediate lobe of the notched upper lip of its corolla, which is streaked with black, and for the uniform deep purple hue of the rest of the corolla. It is but fair to observe, that Dr. GILLIES considers it only a *var.* of S. *Grahamii:* but, assuredly, its marks, whether constant or not, are as decided as those of almost any other species of this Genus, and I think it exceeds them all in the beauty of its blossoms.

Fig. 1. Stamens.—*Magnified.* 2. Root-leaf.—*Natural size.*

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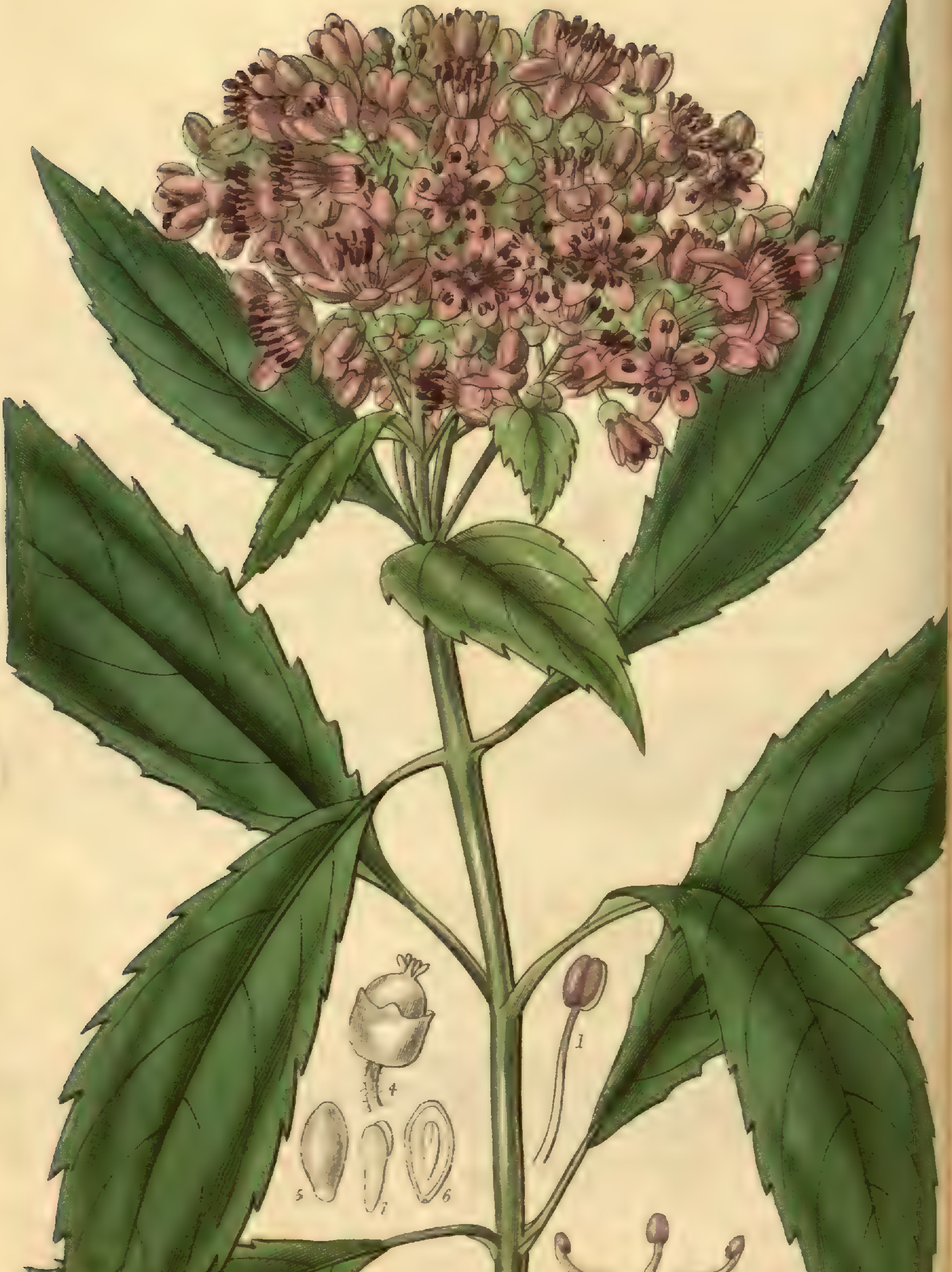

W J H del.

Pub by S. Curtis Walworth Feby 1.1831

Swan Sc.

ADAMIA CYANEA. BLUE-BERRIED ADAMIA.

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Class and Order.

DECANDRIA PENTAGYNIA.

(Nat. Ord.—ARALIACEÆ. *Wallich.* SAXIFRAGEÆ. *De Cand.*)

Generic Character.

Calyx ovario adnatus, limbo quinquedentatus. *Petala* quinque, dentibus calycinis alternantia, epigyna, verticem ovarii ambientia. *Stamina* decem, quorum alterno petalis opposita. *Styli* quinque. *Stigmata* clavata, sub-biloba. *Bacca* infera, coronata, subquinquelocularis, polysperma.

Specific Name and Synonyms.

ADAMIA * *cyanea.*
ADAMIA cyanea. *Wallich, Tent. Fl. Nep. p. 46. t. 36. De Cand. Prodr. v. 4. p. 16.*

DESCR. A much-branched, paniculated *shrub,* three to four feet high. *Stem* from an inch to an inch and a half thick, with the *bark* spongy, whitish, glabrous; *wood* pale-coloured. *Branches* opposite, rounded or obscurely quadrangular, glabrous, rather glaucous, above purplish, and downy with appressed hairs; the younger ones, as well as the leaves, thickly hairy. *Leaves* opposite, patent, approximated, somewhat fleshy, between oblong and lanceolate, acuminated, sharp at both ends, serrated, the serratures incurved, cuspidate, acute; above dark green, rather rugose, glabrous; beneath pale, downy towards the midrib as well as on the elevated, parallel, approximated, oblique nerves, transversely reticulated with veins. *Petioles* an inch long, rounded, plane above, slightly marginate by reason of the acute, entire, decurrent base of the leaf. *Stipules* none, unless an elevated sometimes downy line, connecting the bases of the petioles be so called. *Panicle* large, terminal, broadly-ovate, naked or furnished at the base with a few lanceolate, entire, floral leaves, shorter than the uppermost pair of leaves, densely-flowered; its branches opposite, downy, subtrichotomous at the summit. *Bracteas* none. *Flowers* very numerous, pale blue, or sometimes pink, externally whitish, scentless, in many fascicles, or subumbellate, their *peduncles* short, villous, slightly coloured. *Calyx* superior, that is, cohering with the ovary; the *limb* small, free, five-toothed, the teeth minute, spreading, ovate, acute, distant, rather downy. *Corolla* fleshy, glabrous, five-petaled, prior to expansion valvular and ovato-obtuse. *Petals* lanceolate, acute, marked with three lines, quite patent, finally recurved, inserted with its broad base upon the calyx within the limb of the latter and alternating with its teeth. *Stamens* ten, patent, rather shorter than the petals and alternately opposite, nearly equal; *filaments* subulate, bluish, fleshy, glabrous: *anthers* fixed by their base, large, ovate, two-celled, before bursting, those five which are opposite to the petals are deflexed, the rest erect. *Ovary* inferior, globose, as large as a grain of black pepper, downy, pseudo-quinquelocular, with the top a little elevated within the petals; ovules minute, fixed to five parietal, fleshy receptacles. *Styles* five, nearly erect, fleshy, swelling at the top into as many club-shaped, compressed *stigmas*, which are somewhat tumid at the margin, and somewhat two-lobed. *Berries* very numerous, panicled, globose, glabrous, deep blue, as large as a black currant, within fleshy, pale and spongy, somewhat five-celled, many-seeded, convex at the top, retuse at the centre, and terminated by the persistent *styles*, crowned with the numerous, minute, persistent, calycine teeth, which are united with a very narrow margin. *Seeds* extremely numerous, minute, pear-shaped, slightly striated, inserted upon five parietal, fleshy, finally vanishing *receptacles*, and filling the whole cavity of the fruit. *Integument* simple, dark brown, membranaceous. *Perisperm* fleshy, of the same shape as the seed. *Embryo* cylindrical, occupying nearly the whole of the centre of the perisperm.

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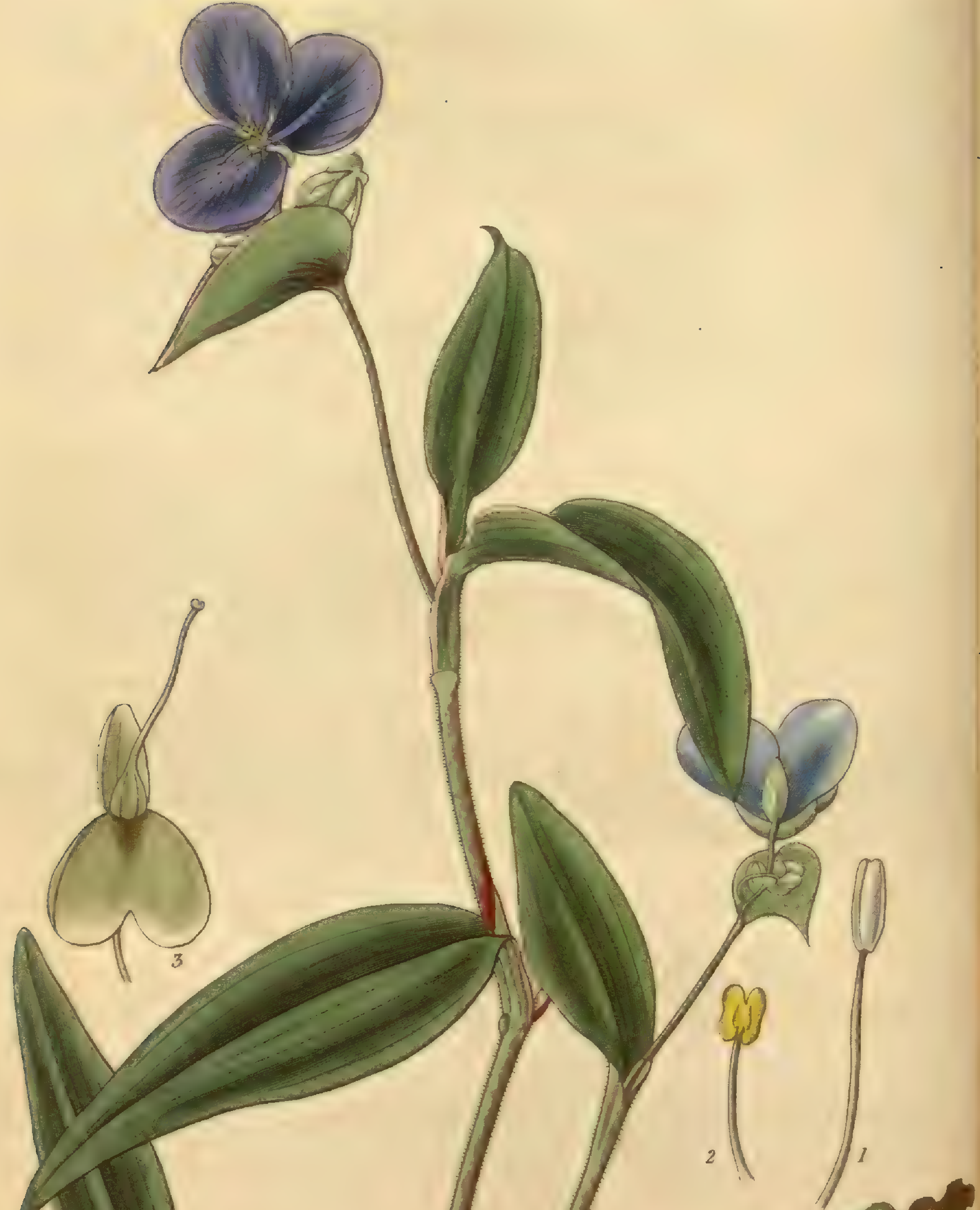
* So named by Dr. WALLICH, in memory of his late friend, JOHN ADAM, Esq., President of the Supreme Council at Calcutta, an ardent promoter and liberal encourager of Botany, Horticulture, and Rural Affairs in the East Indies.

Cotyledons ovate, obtuse, convex at the back, short. *Radicle* obtuse, directed towards the hilum.

This new and interesting Genus was found by Dr. Wallich, inhabiting barren, stony, and mountainous places near Bechiaco, in Nepal, and by him introduced to the Royal Gardens at Kew; whence a flowering specimen, accompanied by a drawing from which the annexed figure of the natural size was taken, were kindly communicated, by W. T. Aiton, Esq. Dr. Wallich characterises it as an elegant shrub, covered with large panicles of pale blue or pink flowers, which are succeeded by an almost equally ornamental profusion of deep blue berries.

Fig. 1. Stamen. 2. Pistil invested by the Calyx. 3. Section of the Germen. 4. Fruit. 5. Seed. 6. Section of ditto. 7. Embryo :—*magnified.* Fig. 4—6 are copied from Dr. Wallich's figure, in the *Tent. Fl. Nepal.*

3047



W. J. H. delt.

Pub by S. Curtis Walworth Feby. 1. 1831.

COMMELINA GRACILIS. SLENDER COMMELINA.

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Class and Order.

TRIANDRIA MONOGYNIA.

(Nat. Ord.—COMMELINEÆ.)

Generic Character.

Cal. 3-sepalus. *Cor.* 3-petala, petalo uno aut altero sæpe abortiente. *Stamina* 3 spuria glandulosa, cruciata. *Capsula* bi- trilocularis, spatha tecta. *Spr.*

Specific Character and Synonyms.

COMMELINA* *gracilis;* caule ascendente ramoso repente colorato piloso pilis reflexis, foliis sessilibus lanceolatis acuminatis planis utrinque glabris, spatha cordata compressa, floribus pentandris, petalis inæqualibus, staminibus inclusis tribus fertilibus. *Graham.*

COMMELINA gracilis. *Ruiz et Pavon, Fl. Peruv. v.* 1. *p.* 44. *t.* 72. *Spreng. Syst. Veget. v.* 1. *p.* 173.

COMMELINA formosa. *Graham in Edin. Phil. Journ. Dec.* 1830.

DESCR. *Stem* ascending, rooting, branched, red, especially above the joints, hairy, hairs reflected. *Leaves* lanceolate, acuminate, flat, glabrous on both sides and shining, bright green above, whitish below, seven-nerved, the middle rib prominent behind, channelled above, sheaths striated, ciliated. *Peduncles* (two inches long) straight, with a line of reflexed hairs along the inner side (the ciliæ of the adhering sheath of the spatha). *Spatha* heart-shaped, folded, compressed, several-flowered, glabrous. *Pedicels*

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* Named in compliment to JOHN and GASPAR COMMELIN, celebrated Dutch Botanists.

of unequal length, slightly pubescent, erect, straight. *Calyx* white, glabrous, triphyllous, leaflets unequal, the upper one the smallest and most acute, the two lower rounded, and cohering towards their base. *Corolla* a beautiful, rather pale blue, of three unequal *petals*, each concave, rounded, slightly and unequally crenate, (the largest three-fourths of an inch long, and nearly as much broad,) the two upper ones particularly unguiculate. *Stamens* (five ?) inserted within the base of the corolla, and sometimes attached to it at their origin; *filaments* glabrous, pale blue, less than half the length of the petals. *Anthers*, two abortive, yellow, lobed, three fertile, white, linear, sagittate at their base; *pollen* white. *Germen* superior, ovato-acuminate, white. *Style* deflected upon the lower petal, otherwise like the filaments, and similar to them in length. *Stigma* small, three-lobed. *Unripe capsule* three-sided, three-celled.

The seeds of this very pretty species of COMMELINA were gathered by Mr. CRUCKSHANKS in the valley of Lima, and communicated to me last spring. The plants flowered freely in the greenhouse in July. *Graham.*

It appears, from a comparison of this plant with the figure and description of C. *gracilis* in RUIZ and PAVON, that it is the same; an opinion in which Dr. GRAHAM concurs.

Fig. 1. Fertile Stamen. 2. Sterile Stamen, or Nectary. 3. Calyx and Pistil.—*Magnified.*

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W. J. H. del.

Pub by S. Curtis Walworth Feby 1.1831

LOASA INCANA. HOARY LOASA.

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Class and Order.

POLYADELPHIA POLYANDRIA.

(Nat. Ord.—LOASEÆ.)

Generic Character.

Calycis tubus cylindraceus arcte ovarium vestiens, sed forsan liber; limbus 5-partitus, persistens. *Pet.* 10, unguiculata, calyce inserta. *Stamina* numerosa (200—250), cum petalis inserta, iis breviora, filamentis liberis, externis interdum sterilibus, antheris oblongis. *Stylus* filiformis, striis 3—7-spiralibus notatus et inde stylis 5—7-omnino connexis et spiraliter tortis constans. *Caps.* oblonga, 1-locul. 3—7-valvis, placentis totidem seminum series duobus gerentibus. *Semina* compressa, numerosa. *D C.*

Specific Character and Synonym.

LOASA* *incana,* suffruticosa suburens, caule suberecto ramoso foliisque sparsis petiolatis ovato-lanceolatis inciso-serratis scabris, pedunculis simplicibus oppositifoliis. *Graham.*

LOASA incana. *Graham in Ed. Phil. Journ. Dec.* 1830.

DESCR. Suffruticose. Whole *plant,* particularly the *stem,* densely covered with harsh, barbed, white hairs, and a few stinging hairs interspersed. *Stem* round, much branched, branches scattered, spreading. *Cuticle* like paper, and peeling off in the dried specimen. *Leaves* scattered, petioled, spreading, ovate, acute, hispid on both sides, veined, inciso-serrate, veins and midrib prominent below, channelled above. *Flowers* opposite the leaves, solitary,

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* A name given by ADANSON, of dubious origin.

peduncled. *Peduncles* spreading, about half the length of the leaves, round. *Calyx* green, widely spread, segments ovato-acuminate, three-ribbed, undulate, reflected in their sides, persisting. *Corolla* white, ten-parted, uniseriate, alternate, segments alike, the larger segments spreading, cucullate, nerved and veined, longer than the calyx; the smaller segments nearly glabrous, slightly ciliated, concave, within nectariferous, each having near its rounded apex, three erect, dorsal filaments as long as itself. *Stamens* numerous, nearly as long as the longer segments of the corolla, lodged within the hollow larger petals till the pollen is ripe, when they become erect, free, unconnected with each other, within the corolla, mostly perfect, with simple colourless, slightly flattened, glabrous filaments, and greenish-yellow, oblong, bilocular *anthers*, erect, bursting along the sides, ten barren, two within each of the shorter petals, spreading, and flattened at the base, there ciliated, each having a reflected lip at the apex of the petal within which it is placed, and above this extended into an erect *filament*, nearly as long as the fertile stamens. *Style* erect, simple, shorter than the stamens, tapering, nearly smooth towards the top. *Stigma* capitate, small, lobed, smooth. *Germen* turbinate, inferior, green, unilocular, with three to four parietal receptacles, alternate with the teeth, covered along their edge with numerous ovules. *Capsule* opening by three to four teeth above the level of the calyx.

This plant was raised from seeds communicated in spring last from Yazo, valley of Canta, in Peru. Mr. CRUCKSHANKS only observed one plant, which was low and branching, with its branches much entangled. From this he also most kindly presented me with a well-dried specimen, from the appearance of which, rather than from our plant (we raised but one), which is still small, it would seem to blossom very freely. With us it flowered in the greenhouse during October and November, and even now (7th December) there are buds which may possibly expand. *Graham.*

Fig. 1. Outer Petal. 2. Germen and Calyx, one segment of the limb of the latter being removed. 3. Inner Petal, with two abortive Stamens. 4. The two abortive Stamens. 5. Fertile Stamen. 6. Fruit. 7. Seed.—*Magnified.*

W. J. H del^t. Pub by S. Curtis Walworth Feb^y 1 1831 Swan Sc.

CLERODENDRON NUTANS. DROOPING-FLOWERED CLERODENDRON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—VERBENACEÆ.)

Generic Character.

Cal. 5-fidus (nunc 5-dentatus). *Cor.* tubo cylindrico; limbo 5-partito, patente, laciniis subæqualibus. *Stam.* juxta faucem inserta, exserta, adscendentia: antherarum loculis parallelis. *Bacca* pyrenis 4, monospermis. *Br.*

Specific Character.

CLERODENDRUM *nutans;* fruticosa, erecta, glabra, ramis acutè tetragonis, apice nutantibus; foliis ternis vel oppositis, oblongis, longè acuminatis, integerrimis, basi attenuatis, brevissimè petiolatis, paniculâ oblongâ, laxè pendulâ, pedunculis bìs dichotomis, calyce ventricoso tubo corollæ parùm breviore, limbo secundo. *Wallich.*

DESCR. A branchy, erect *shrub,* two to four feet high, *Stem* as thick as a thumb, covered with brownish, even, and pretty smooth *bark. Branches* spreading, dotted, acutely four-sided, as well as all the other parts perfectly smooth; their outer ends nodding. *Leaves* opposite or ternate, rarely subalternate, spreading, twice or thrice longer than their interstices, short-petioled, oblong, finely acuminate, entire, slightly waved, narrowing downwards into a sharp base, five to seven inches long, dark green and glossy above, opaque and pallid underneath, with elevated rib and oblique nerves: the latter uniting within the margins by means of curved veins. The uppermost leaves as well as the floral ones much smaller than the rest, narrow-lanceolate, ascending and gently recurved. *Petiole* scarcely half an inch long, deeply furrowed above; a series of minute and evanescent ciliæ is observable across the young branches, between the insertions of the petioles, leaving a line after it has disappeared. *Panicle* terminal, oblong, slender, subsessile, pendulous, from six inches to a foot long, with one or two pairs of remote floral leaves at the base, consisting of opposite, subdecussate, divaricate, short, once or twice dichotomous branches. *Peduncles* acutely four-sided, purplish; *common,* as thick as a crow-quill; *partial,* half an inch long, supported under each division by a pair of very small, linear, ciliate *bractlets. Flowers* white, inodorous, slightly adscending, ternate, inserted on filiform pedicels, which are an inch long, and have a pair of minute, linear bractlets at the middle. *Calyx* ovate, inflated, slightly five-cornered, of a purple colour, nearly half an inch long, subtruncate at the base, narrowing towards the mouth, which is divided into five equal, lanceolate, acute, obscurely ciliate, converging laciniæ. *Tube* of the *corolla* slender, cylindrical, a little longer than the calyx; *limb* spreading, unilateral, divided into five obovate, obtuse, almost equal, flat lobes, nearly as long as the tube; *throat* very narrow. *Stamina* four, didynamous, adscending, longer than the corolla; *filaments* filiform, white, inserted within the tube, immediately below the throat of the corolla; *anthers* small, ovate, equally bilocular, fleshy, and minutely papillose on the back. *Pistil* a little shorter than the stamens, like these curved and adscending; *ovarium* small, ovate, four-celled; *ovula* solitary, erect; *style* filiform; *stigma* simple, small, club-shaped. *Berry* dark purple, smooth, shining, round, most slightly two-lobed, almost of the size of a small gooseberry, supported by the permanent, scarcely enlarged, open calyx, two-, rarely four-seeded. *Wall.*

This is one of the most beautiful and desirable shrubs with which I am acquainted. It is a native of Silhet, on the North-east side of Bengal, whence it was introduced into the Botanic Garden at Calcutta, by the late Mr. M. R. Smith. It is well furnished with branches and leaves. The panicles are long and slender, hanging down gracefully, and vibrating to the least breath of air. The flowers are very elegant, the corollas being of a pure white colour, the calyces reddish purple. My late much-lamented friend Mr. Jack, has given a short character of a shrub, native of Penang, which he considered the same species as that just described. (See Malayan Miscellanies, vol. 1. part 1.; reprinted in HOOKER'S Botanical Miscellany, vol. 1. p. 284.) I found this last plant on the said island in September, 1822; it was then nearly out of flower, but afforded sufficient evidence of its being a different species from my C. *nutans*; I have called it C. *Jackianum* in the Hon. East India Company's Herbarium. (No. 1794 of the Lithographic List.) I have a third species from Tavoy, on the coast of Tenasserim, (C. *penduliflorum*, No. 1795 of the List,) which is likewise an exceedingly lovely shrub, with long and pendulous panicles, totally distinct from the two other species. *Wall.*

The figure here given was taken from a plant, kindly communicated from Bretton Hall, in December, 1830, where it had been raised from seeds sent by Dr. WALLICH.

Fig. 1. Anther and part of the Filament. 2. Pistil.—***Magnified.***

3050

Pub by S.Curtis Walworth Feb.y 1.1831.

Swan

(3050)

ALSTRŒMERIA ACUTIFOLIA. SHARP-POINTED-LEAVED ALSTRŒMERIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AMARYLLIDEÆ.)

Generic Character.

Perianthium corollaceum, subcampanulaceum, sexpartitum, irregulare; laciniis duabus (vel tribus) interioribus basi tubuloso-conniventibus. *Stam.* 6, laciniis inserta, demum declinata. *Stigma* trifidum. *Capsula* trilocularis, loculis polyspermis.—Caulis *erectus, scandens aut volubilis, foliatus*. Flores *umbellati*. Kunth.

Specific Character and Synonym.

ALSTRŒMERIA *acutifolia;* caule subvolubili, foliis petiolatis lanceolatis anguste acuminatis subtus pubescentibus, umbella simplici, pedunculis pubescentibus, petalis longitudine æqualibus, 3 ext. oblongis subacutis, 3 int. spathulatis.

ALSTRŒMERIA acutifolia. *Link. et Otto, Abd. Gew. p.* 57. *t.* 29.

DESCR. *Stem,* according to M. M. LINK and OTTO, attaining a height of five or six feet, somewhat twining, rounded, glabrous. *Leaves* remote, lanceolate, much and narrowly acuminated, striated, dark green and glabrous above, pale and downy, especially on the nerves beneath, inserted on a short, twisted *petiole.* *Umbel* terminal, of many *flowers,* surrounded at the base by an involucre of leaves, resembling those of the stem, but much smaller. *Peduncles* rounded, flexuose, downy. *Corolla* subcampanulate; the *petals* erect, and but slightly patent at the extremity,

tremity, all of them nearly equal in height, the three outer ones oblong, of a deep but not very bright red, acute; the three inner more delicate in texture, broadly-spathulate, orange-coloured; all of them with a deep red spot at the tip. *Stamens* shorter than the corolla: *Filaments* pale reddish-purple: *Anthers* oblong, bluish-purple. *Germen* inferior, turbinate, triangular, downy; *Style* straight, filiform, greenish-white, thickened at the base, at the extremity terminated by a trifid stigma. *Capsule* remarkably depressed, turbinate, opening at the top by three valves, each of which bears a septum, and each septum has two seeds attached on either side of it, of a bright scarlet colour.

For this beautiful species of Alstrœmeria our gardens are indebted to Mr. Otto of Berlin, who transmitted plants to the Botanic Gardens, both of Edinburgh and Liverpool; and from specimens that have flowered in both those establishments, the present figure and description have been made.

It inhabits Mexico, where it was discovered by M. Deppe, who is now most successfully exploring that interesting region, as a Botanist.

In our stoves it has flowered in the months of August and September.

Fig. 1. Stamen. 2. Pistil. 3. Inner Petal. 4. Outer Petal: more or less *magnified*. 5. Capsule, *nat. size*.

Pub by S Curtis Walworth Feby 1 1851.

(3051)

CODIÆUM PICTUM. PAINTED-LEAVED CODIÆUM.

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Class and Order.

MONŒCIA MONADELPHIA.

(Nat. Ord.—EUPHORBIACEÆ.)

Generic Character.

Fl. Monoici. MAS. *Cal.* 5-partitus. *Pet.* 5, squamiformia. *Stam.* plurima. FŒM. *Cal.* 5-fidus. *Petala* 0. *Styli* et *Stigmata* 3. *Fructus* subcarnosus, tricoccus. *Adr. Juss.*

Specific Character and Synonyms.

CODIÆUM[*] *pictum;* foliis cordato-oblongis coriaceis nitidis variegatis.

CROTON pictum. " Noisette." *(Steudel.) Lodd. Bot. Cab. t.* 870.

CROTON variegatum, *var.* 3, latifolium. *Roxb. Hort. Beng. p.* 69.

This is, in our stove, a low *shrub*, of slow growth, glabrous in every part, and having its foliage collected principally at the extremity of the branches. The *leaves* are very beautiful, four to six inches long, on short petioles, coriaceous, glossy, between cordate and oblong, rather obtuse, entire, veined, of a reddish or yellow colour, mottled and variegated with green, paler on the underside. *Flowers* in long, pedunculated *racemes*, from the extremity of the branches. I have only seen that which bears *female flowers*.

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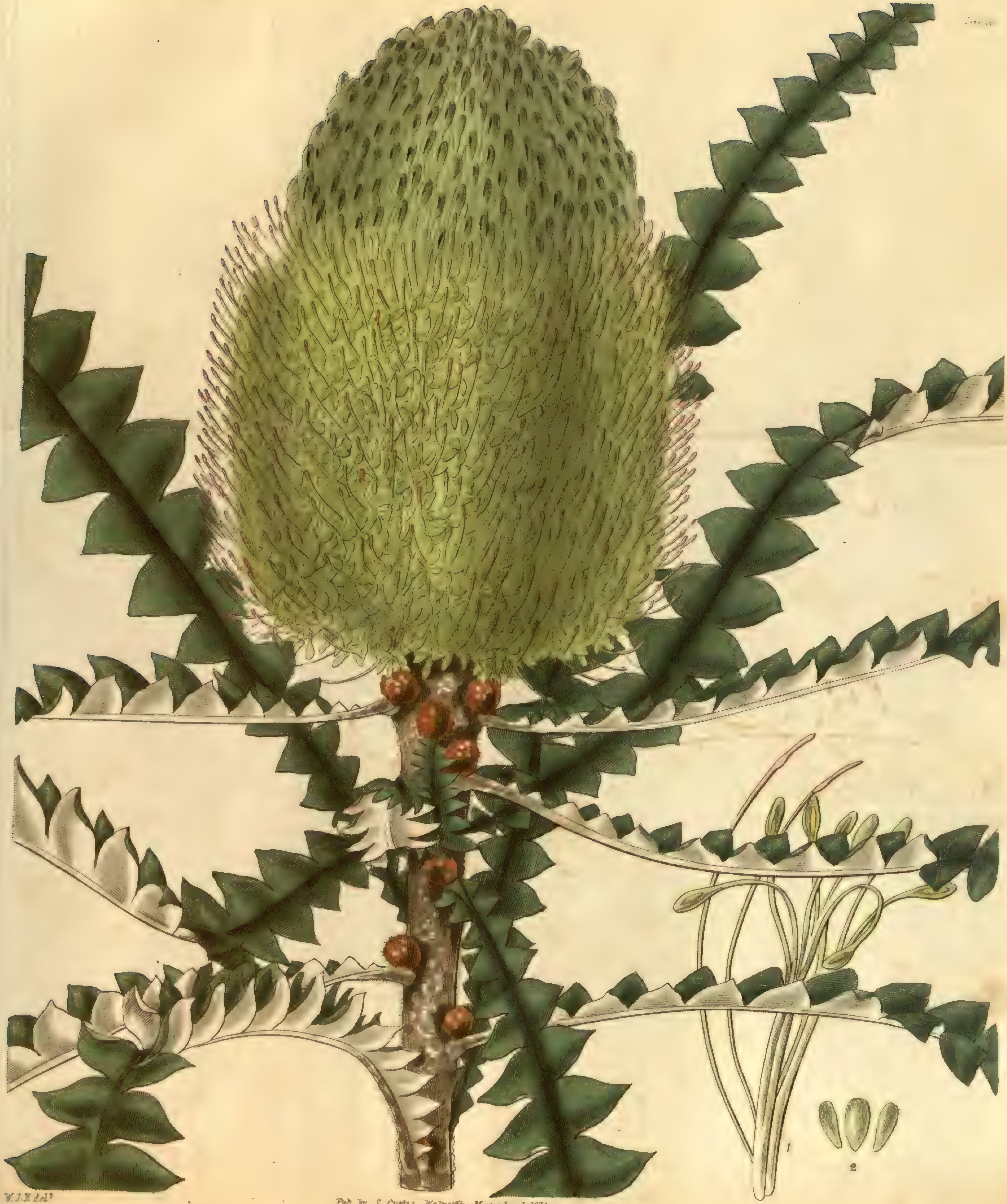
[*] So termed by RUMPHIUS, from the Malayan name of the CROTON *variegatum* of LINNÆUS, *Codebo.*

These have a turbinated, five-cleft *calyx*, the segments, or teeth, closely applied to the base of the germen. *Germen* ovate, surrounded by an annular disk or gland: *Styles* three, tapering into reflexed and flexuose, subulate *stigmas*.

If the flowers of this plant be insignificant and obscure, this deficiency is amply compensated by the singularity and beauty of its foliage, which renders it a most desirable inmate of the stove, and which has recommended it to the inhabitants of the Molucca islands, where it is a native, and where they cultivate it around their houses, and for the purpose of fences, decorating their triumphal arches with its leaves, and strewing them about on occasions of festivity.

We are indebted to CHARLES TELFAIR, Esq., and to the Professor of the Royal College, Mauritius, for the possession of this plant in the Glasgow Botanic Garden, where it flowered in August, 1830. It was sent under the name of CROTON *pictum*, and it is said to be C. *pictum* of NOISETTE, by STEUDEL; but I do not find it any where described under that name, except by Mr. LODDIGES in his Botanical Cabinet. It is, I think, with justice separated from the C. *variegatum*, with which it has been confounded, and which has very narrow leaves, almost linear indeed. At the same time, it must be acknowledged, that RUMPHIUS has represented some intermediate states, which make it difficult to draw the line of distinction. All have a peculiar *Aucuba*-like habit, which, in addition to the difference in the fructification, shows the judgment of ADR. DE JUSSIEU in separating them generically from CROTON.

Fig. 1. Female Flower. 2. Gland at the Base of the Germen.



W.J.H del^t

Pub by S. Curtis Walworth March 1.1831

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BANKSIA SPECIOSA. HANDSOME BANKSIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Cal. quadripartitus (raro quadrifidus.) *Stamina* apicibus concavis laciniarum immersa. *Squamulæ* hypogynæ 4. *Ovarium* biloculare, loculis monospermis. *Folliculus* bilocularis, ligneus: dissepimento libero, bifido. *Amentum* flosculorum paribus tribracteatis. *Br.*

Specific Character and Synonyms.

BANKSIA *speciosa.*

BANKSIA *speciosa;* foliis linearibus pinnatifidis lobis triangulari-semiovatis mucronatis subtus niveis obsolete nervosis, calycis laminis lanatis, stylo pubescente, folliculis tomentosis. *Brown.*

BANKSIA speciosa. *Br. Trans. Linn. Soc. v.* 10. *p.* 210. *Spreng. Syst. Veget. v.* 1. *p.* 486. *Graham in Edinb. Phil. Journ. Dec.* 1830.

DESCR. *Trunk* erect, branched; branches spreading, towards their extremities densely covered with snowy tomentum. *Leaves* (a foot and a half long, an inch and a half broad) scattered, linear, attenuated at the base, and very slightly so at the apex, truncated, pinnatifid, nerved and reticulated, covered on both sides when young, with short, dense, white tomentum, which is beautifully snowy below, when old, naked, bright green and shining above; segments alternate, triangular, ovate along their upper edge, mucronate, the mucro projecting forwards. *Spike* (four inches and a half long, three inches and a half broad to the extremities of the styles) terminal. *Flowers* in pairs along the rachis, forming double lines, which are much crowded together, expanding from below upwards, every where yellow, except the *stigma*, which is red. *Calyx* (an inch and a half long) four-parted, woolly on the outside, the woolliness increasing upwards. *Anthers* subsessile, in the oblong hollow extremities of the calyx, linear-lanceolate. *Style* longer than the calyx, curved upwards, pubescent, filiform, tumid near the extremity, tipped with the red, subacute, somewhat angled *stigma*.

This very handsome species produced a fine head of flowers in the greenhouse of the Edinburgh Botanic Garden, in October, 1830, the plant being above five feet high. *Graham*.

Fig. 1. Pair of Flowers. 2. Three Bracteas from their base.—*Magnified.*

3053

W.J.H. del.t Pub by S. Curtis Walworth March 1.1831 Swan Sc

HOVEA PANNOSA. RUSTY HOVEA.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. bilabiatus, labio super. semibifido, lato, retuso, inf. tripartito. *Carina* obtusa. *Stam.* omnia connexa, aut decimo superne plus minus libero. *Legumen* sessile, subrotundum, ventricosum, dispermum. *Semina* strophiolata. *D C.*

Specific Character and Synonym.

HOVEA* *pannosa;* foliis lineari-oblongis obtusis glabris nitidis subtus ramis leguminibusque ferrugineo-tomentosis.

HOVEA pannosa. *Cunningham MSS. apud Hort. Reg. Kew.*

DESCR. *Stem* erect, rigid, branched, branches clothed with a dense, ferruginous tomentum. *Leaves* linear-oblong, obtuse, coriaceous, entire, glabrous, dark green and smooth above, with a depressed midrib, below clothed with a dense rusty-coloured down, and marked with a prominent midrib. At the base is a short, downy, petiole; at the point a small tuft of hairs. *Stipules* linear, very downy. *Flowers* produced in the axils of the leaves, two or three from each of the upper leaves, on downy, short stalks, with a linear-subulate bractea at their base. *Calyx* very downy, and rusty-coloured, two-lipped; upper lip arched, obtuse, bifid, lower of three linear segments. *Standard* of the corolla broad, purple, with a broad, obcordate, pale spot just above the unguis, surrounded by a deep purple-coloured ring. *Alæ* short, convex, deep purple. *Carina* minute, purple, included in, and concealed by the alæ. *Stamens* all combined, the tube cleft above. *Anther* yellow. *Pistil* concealed by the tube of the stamens. *Germen* oblongo-ovate, hairy : *Style* about equal to it in length : *Stigma* capitate. *Legumen* oblong, ventricose, very downy, tipped with the style, much longer than the calyx.

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* Named by Mr. BROWN, in compliment to A. P. HOVE, a Polish Botanist.

HOVEA *pannosa*, thus named by its indefatigable discoverer, Mr. ALLAN CUNNINGHAM, is a native of Mount Stirling, in the country northward from Bathurst, in the interior of New South Wales, and was raised at the Royal Gardens of Kew from seeds, sent in 1823. Mr. AITON obligingly communicated specimens and the drawing here figured, during the last summer (1830). It is a very elegant and ornamental species, its blossoms being beautifully coloured, the upper sides of the leaves glossy green, sometimes slightly transversely wrinkled, the underside and the branches thickly covered with a ferruginous tomentum. It approaches to H. *linearis*, but that species has much narrower leaves and smaller and pale-coloured flowers.

Fig. 1. Calyx. 2. Vexillum. 3. 3. Alæ. 4. Carina. 5. Stamens, including the Pistil. 6. Pistil. 7. Legumen :—*Magnified.*

3054

Pub by S Curtis Walworth March 1.1831

Swan

(3054)

TUPISTRA NUTANS. DROOPING TUPISTRA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AROIDEÆ.)

Generic Character.

Spadix nudus, multiflorus. *Perianthium* campanulatum, 6-partitum, basi bracteatum. *Antheræ* sessiles, perianthio insertæ, laciniis oppositæ. *Stylus* columnaris, sulcatus: *Stigma* magnum, 3-lobum, peltatum. *Bacca* 3-locularis, loculis dispermis.

Specific Character and Synonym.

TUPISTRA* *nutans;* spica oblongo-cylindracea obtusa nutante, floribus densissime approximatis brevi-campanulatis unibracteatis.

TUPISTRA nutans. *Wallich in Bot. Reg. t.* 1223.

DESCR. Perennial. *Stem* about two inches long, and set round at the base with a few short but thick fibres: from the summit of the rootstock there arise many large, sheathing scales, which surround both the base of the leaf and of the scape. *Leaves* few, between two and three feet long; petiole semicylindrical, furrowed on the upper side, three to four inches long, tapering gradually into an obovato-lanceolate, acuminated, striated, membranous leaf. From the united bases of the leaves arises the *scape,* which is semiterete, and curved downwards, bearing a thick, oblongo-cylindrical *spadix,* of many sessile, unibracteated flowers. *Perianth* shortly campanulate, its *limb* spreading, six-cleft,

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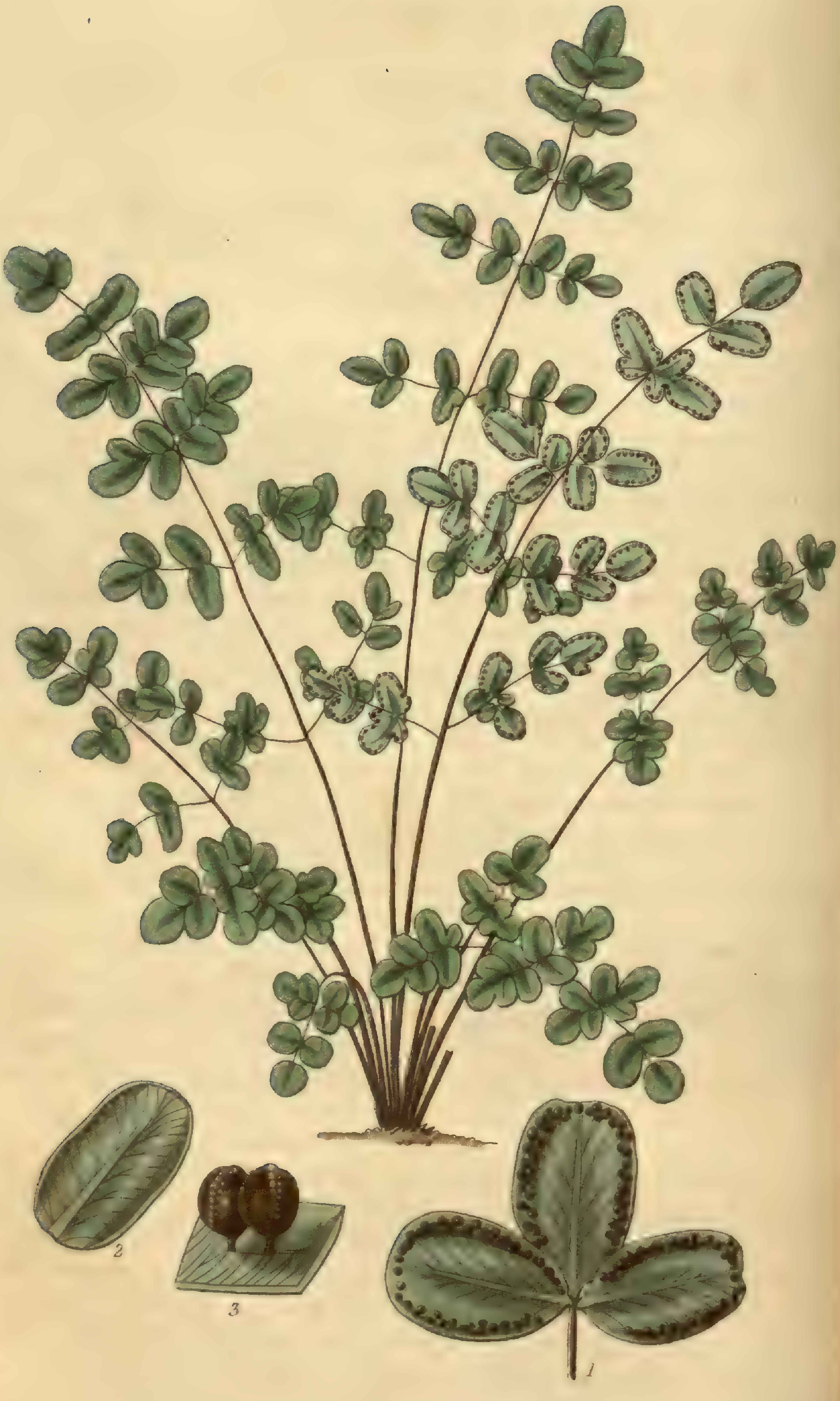
* Name; *τυπις, a mallet,* from the large, mallet-like stigma.

six-cleft, thick and fleshy, the segments obtuse, three inner and three outer, of a pale yellowish-brown colour, streaked with purple. *Anthers* six, sessile, or nearly so, opposite to the segments of the perianth, and inserted at the mouth of the tubular portion, yellow, two-celled. *Pistil: Germen* small, roundish: *Style* thick, columnar, short: *Stigma* very large, peltate, three-lobed, forming a sort of lid to the mouth of the perianth, so as entirely to cover and conceal the *stamens*. The *fruit* I have not seen: but the fleshy germen, on a transverse section being made, exhibits three small cells, each with two collateral ovules.

For this interesting plant of the Natural Order AROIDEÆ, the second species known of the Genus TUPISTRA, our gardens are indebted to Dr. WALLICH. By that generous Botanist a root was presented to Mrs. BEAUMONT of Bretton Hall, and we are obliged to Mr. MARNOCK, who has the charge of the gardens there, for the noble specimen from which the accompanying drawing was taken. It blossomed in October, 1830, for the second time, having flowered the preceding year, soon after which, the plant threw up a new set of leaves.

Fig. 1. Flower, with its Bractea at the Base; the Stigma being removed, to show the insertion of the Stamens. 2. The Stigma seen from beneath. 3. Portion of the Perianth with a Stamen. 4. Stamen. 5. Pistil. 6. Germen and Style, the Stigmas being removed. 7. Section of the Germen.—All more or less *magnified*.



W. J. H. del.

Pub by S. Curtis Walworth March 1.1831.

NOTHOCLÆNA TENERA. THIN-LEAVED NOTHOCLÆNA.

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Class and Order.

CRYPTOGAMIA FILICES.

(Nat. Ord.—FILICES.)

Generic Character.

Sori marginales, continui v. interrupti. *Involucrum* nullum (nisi setæ interstinctæ v. squamulæ lanave frondis.)

Specific Character and Synonym.

NOTHOCLÆNA* *tenera;* frondibus bi-tripinnatis, foliolis ellipticis integerrimis teneris glaucis glaberrimis, capsulis nigro-fuscescentibus nitidis.
NOTHOCLÆNA tenera. *Gillies MSS.*

DESCR. *Fronds* growing in a tufted manner, four to six inches in length, ovato-deltoid in their circumscription, each supported upon a glossy, purple-black *stipes*, bipinnate, the base tripinnate, the pinnæ with an odd, terminal pinnule or leaflet. *Pinnules* elliptical, obtuse, sessile (except the terminal one, which is often petioled,) of a membranaceous, thin, and delicate texture, glaucous-green, especially beneath, pinnatedly nerved, the margin entire, slightly recurved at first, afterwards plane. *Rachis* extremely slender, glossy purple-black. *Sori* uninterrupted, marginal. *Capsules* at first green, and partially covered by the revolute margin, at length of a deep, shining brown-black, and quite exposed to view: each is globose, reticulated, having a nearly complete *annulus*.

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* Fom νοθος, *spurious*, and χλαινα, *a cloak*, or *covering*, from the imp fectly involute covering to the capsules.

For this graceful little *Fern,* our Botanic Garden of Glasgow is indebted to Dr. GILLIES, who sent seeds which were gathered in the neighbourhood of Mendoza, and which soon vegetated in our stove, bearing fructification in the same year that they were raised.

In point of Genus, this *Fern* seems to be intermediate between NOTHOCLÆNA and CHEILANTHES. But as, even in a young state, the slightly revolute margin of the pinnules never entirely covers the capsules, I have preferred placing it in the former Genus; from all the other known species of which it is distinguished by its tender, glaucous, and quite glabrous fronds.

Fig. 1. Three ultimate Pinnules of a Frond, with perfect Sori. 2. Pinnule with Fructification in a younger state. 3. Two Capsules.—*Magnified.*

J.H. delt

Pub by S. Curtis Walworth March 1.1831.

LUPINUS CRUCKSHANKSII. MR. CRUCKSHANKS' PERUVIAN LUPINE.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. profunde bilabiatus. *Cor.* papilionacea; vexillum lateribus reflexis, carina acuminata. *Stam.* monadelpha, vagina integra, *antheris* 5 parvis subrotundioribus, precocioribus, 5 oblongis serioribus. *Stylus* filiformis. *Stigma* terminale, subrotundum, barbatum. *Legumen* coriaceum, oblongum, compressum, oblique torulosum. *Cotyledones* crassæ, per germin. in folia conversæ. *De Cand.*

Specific Character.

LUPINUS *Cruckshanksii;* subarborescens, ubique glaberrimus, ramis patentibus, foliolis 7—9 oblongis obtusis basi in petiolum attenuatis, racemis oblongis, floribus verticillatis, calycis labio superiore bifido inferiore integro, bracteis caducis.

DESCR. Although this plant has not with us attained an elevation exceeding four to five feet, yet it may rather be called arborescent than shrubby; for the greater length of the *stem* below is bare of branches and woody; above divided by numerous, spreading branches, into a rounded head, glabrous, as is every part of the plant. *Leaves* numerous, pale yellowish-green, divided into seven or more, usually nine, spreading, oblong or elliptical, obtuse *leaflets,* blunt at the point, and sometimes terminated by a mucro, below attenuated into a short petiole, the whole upon a common petiole four to five inches long, rounded and

green. *Flowers* in oblong, large *racemes*, which terminate the numerous branches. *Bracteæ* linear-subulate, caducous. *Pedicels* mostly in irregular whorls, short. *Calyx* cut almost to the very base into two, nearly equal, linear-oblong lips; of which the upper one is bifid or bidentate at the point, the lower one quite entire. *Corollas* large, very handsome. *Vexillum* rounded, retuse at the extremity, with its sides revolute after expansion, bluish purple, deep yellow in the middle, becoming paler towards the extremity and almost white, the margin reddish, the back pale. *Alæ* suboval, convex, deep purplish-blue, with a reddish spot at the base. *Carina* pale flesh-colour, with a long, orange-coloured acumen or beak.

I have named this truly magnificent species of *Lupine* in compliment to its estimable discoverer, ALEXANDER CRUCKSHANKS, Esq. respecting whose botanical labours in South America, I have elsewhere had occasion to speak *. That gentleman discovered it growing upon the Andes of Peru, in great plenty, not far from Pasco, and near the verge of perpetual snow. Our fine plant was raised from the seed at the Glasgow Botanic Garden, and planted in the open border in the early summer of the present year (1830), when it was soon covered with a profusion of richly-coloured blossoms, which attracted the attention of all who saw it. Mr. MURRAY, with much judgment, would not run the risk of so rare a plant surviving the fickle winter of our climate, and removed it to the greenhouse: but it is very impatient of moisture, and does not strike readily from cuttings. No seeds were produced upon our plant.

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* See Botanical Miscellany, Part IV.

Fig. 1. Calyx and Vexillum :—Slightly *magnified.*

3057

W.J.H del^t

Pub by S. Curtis Walworth March 1.1831

(3057)

LOASA HISPIDA. HISPID LOASA.

Class and Order.

POLYADELPHIA POLYANDRIA.

(Nat. Ord.—LOASEÆ.)

Generic Character.

Calycis tubus cylindraceus arcte ovarium vestiens, sed forsan liber; limbus 5-partitus, persistens. *Pet.* 10, unguiculata, calyce inserta. *Stam.* innumera (230—250) cum petalis inserta, iis breviora, filamentis libera, externis interdum sterilibus, *antheris* oblongis. *Stylus* filiformis, striis 3—7 spiralibus notatus et inde stylis 5—7 omnino connexis et spiraliter tortis constans. *Capsula* oblonga, 1-locularis, 3—7-valvis, placentis totidem seminum series duobus gerantibus. *Semina* compressa, numerosa. *D C.*

Specific Character and Synonyms.

LOASA *hispida*; hispidissima, foliis alternis bipinnatifidis, laciniis calycinis lateralibus replicatis, corolla reflexa.

LOASA hispida. *Linn. Syst. Nat. ed.* 13. *p.* 364. *Willd. Sp. Pl. v.* 2. *p.* 1176. *Graham in Edin. Phil. Journ. Dec.* 1830.

LOASA urens. *Jacq. Obs. Bot. pars* 2. *p.* 15. *t.* 38. *Lam. Encycl. v.* 3. *p.* 758. *Spreng. Syst. Veget. v.* 2. *p.* 601.

LOASA ambrosiæfolia. *Juss. Ann. du Mus. v.* 5. *p.* 26. *t.* 4. *f.* 1. *Pers. Syn. Pl. v.* 2. *p.* 71. *Spreng. Syst. Veget. v.* 2. *p.* 601.

DESCR. *Stem* round, rooting at the base, flexuose, branched, densely covered with innumerable short, harsh hairs, which seem rough under the microscope, and are scarcely stinging; higher up, there are a few deep green oblong spots on the stem, and the hairs are mixed with others which are twice or thrice as long, and stinging, smooth, dark brown, arising from larger glandular bases; these increase in number upwards, and are much crowded near the top. *Leaves* five inches long, three and a half broad, scattered, petioled, oblong, pinnatifid and incised, or oftener bipinnatifid, or almost pinnated, and the pinnæ pinnatifid, pubescent on both sides, but especially the under, which is paler, with prominent, branching veins, which are a little reticulated and channelled above. *Peduncles* scattered, opposite, but never exactly so, sometimes at a considerable distance from the leaves, single-flowered, longer than the upper, but shorter than the larger leaves. *Flowers* nodding, rather powerfully, and, as some think, pleasantly perfumed. *Calyx* green, five-parted, segments patent, cordato-ovate, acute, reflexed in their sides, submarcescent. *Petals* one inch long, reflexed, navicular, hatchet-shaped, cucullate, glandular-pubescent, but sparingly so, except at the claws, reticulated, ciliated along the keel, alternating with white, erect, truncated, obcordate scales, hollow, and opening longitudinally on their inner surface, flat at the apex, there transversely marked with elevated stripes, and each extended into two short, rose-coloured points in the centre of the flower, the stripes reddish-brown on the outside, and more and more greenish-yellow towards the centre. *Stamens* very numerous, about half as long again as the claws of the petals, and lodged, as in all this Genus, within their cavities, and advancing in succession; *filaments* white, glabrous; *anthers* yellow, becoming brown, short, bilobular, bursting along the sides; *pollen* granular, small, pale yellow. Two abortive, subulate, hooked, pubescent filaments, shorter and broader than the others, are placed on the inside of each of the hollow scales, and are at all times erect. *Germen* unilocular, turbinate, inferior, covered with pungent hairs, its upper surface flat, becoming conical, and rising above the calyx, but there empty, trifid; *ovules* numerous, attached to three linear, parietal placentæ. *Styles* three, cohering, their lower half, as well as the upper surface of the germen, covered with hairs. *Stigmas* very small.

I cannot see the propriety of changing the Specific Name of LINNÆUS to the equally objectionable one of JACQUIN; nor could I have thought the reason assigned by JUSSIEU for departing from this last sufficient, even though he had not taken a third, which in its turn may be considered inappropriate. It is very true, that all the species of LOASA are hispid, and all are stinging; but if such be considered a cause for altering a specific name, endless confusion would arise in almost every old Genus wherein we have lately become acquainted with many new species. I wish specific names, when once given, were deemed mere arbitrary and immutable terms. TRATTINNICK, it appears, has considered L. *urens*, JACQ. and L. *ambrosiæfolia*, JUSS. as distinct, and is followed by SPRENGEL; but as I am not acquainted with the reasons for this opinion, as JUSSIEU is perfectly explicit that they are the same, as his figure agrees sufficiently, and as the differences noticed in his description appear to me to be trifling, I must follow his opinion, supported as it is by PERSOON and LAMARCK.

The seeds of this most beautiful species were received at the Botanic Garden, in spring last, from my invaluable correspondent Mr. CRUCKSHANKS, whose additions to our stock of cultivated plants I take delight in recording. They were gathered in the valley of Lima. The specimen described was raised in a hot-bed, and flowered in the greenhouse in the end of July. It has flowered in the Royal Botanic Garden at Glasgow*; and I understand also in the neighbourhood of London. *Graham.*

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* Where it succeeds well in the open border.

Fig. 1. Outer Petal. 2. Stamen. 3. Inner Petal, with its two abortive Stamens. 4. An abortive Stamen from the inner Petal. 5. Capsule, scarcely mature, *nat. size.* 6. Hairs from the Stem.—*Magnified.*

W.J.H. del.

Pub by S. Curtis Walworth March 1.1830

(3058)

DELIMA SARMENTOSA. CLIMBING DELIMA.

Class and Order.

POLYANDRIA MONOGYNIA.

(Nat. Ord.—DILLENIACEÆ.)

Generic Character.

Stam. plurima. *Carpellum* 1, capsulare, 1—2-spermum. Flores *interdum abortu dioici.*

Specific Character and Synonyms.

DELIMA * *sarmentosa;* foliis ellipticis serratis integerrimisque scabris rigidis, floribus paniculatis hermaphroditis (?), germinibus capsulisque glabris.

DELIMA sarmentosa. *Linn. Sp. Pl. p.* 736. *Burm. Ind. p.* 122. *t.* 37. *f.* 1. *De Cand. Prodr. v.* 1. *p.* 69. *Spreng. Syst. Veget. v.* 2. *p.* 597.

TETRACERA sarmentosa. *Vahl, Symb. v.* 3. *p.* 70. *Willd. Sp. Pl. v.* 2. *p.* 1240.

ACTÆA aspera. *Lam. Fl. Cochin. v.* 1. *p.* 405 ?

TRACHYTELLA aspera. *De Cand. Syst.* 1. *p.* 410, *Prodr.* 1. *p.* 70.

DESCR. A slender, climbing, branching *shrub,* rough, as is every part of the plant, with short, rigid, closely-appressed hairs. *Leaves* alternate, from one to three or four inches long, generally almost exactly elliptical, sometimes obovate, rarely ovate, rigid, entire, or more or less obscurely toothed at the margin, particularly in the upper half, dark green above, paler beneath, marked with rather close and parallel transversely oblique nerves, which are prominent beneath. *Panicles* terminating the branches, having a small leaf at the primary divisions, and generally a linear bractea at the origin of the lesser ones, and of the pedicels. *Flowers* numerous, in a panicle. *Calyx* of five leaves, green, the two outer leaves or sepals smaller than the three inner ones, glabrous, the margins ciliated.

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* From *delimo,* to smooth or polish, from the use made of the rough leaves.

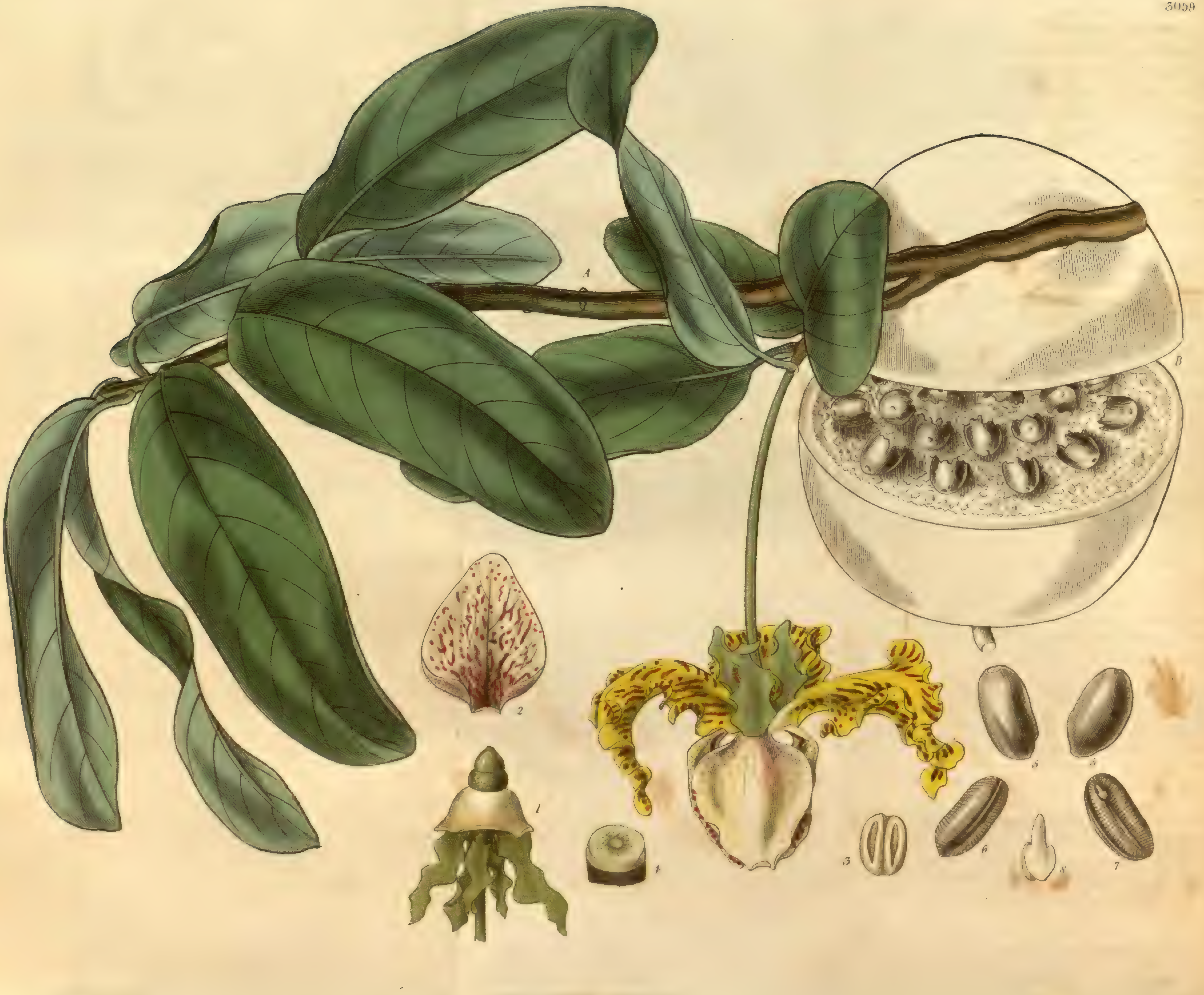
Petals five, oval, concave, white. *Stamens* numerous. *Filaments* flexuose, with a thickened or dilated extremity, at the top of which are the two transverse cells, opening above by a longitudinal fissure. *Pistil* one: *Germen* oblique, gibbous, subovate, gradually tapering upwards into a filiform *style,* and containing 9—11 abortive (?) *ovules* at the base of the cell: *Stigma* dilated. *Fruit* (in dried specimens from Pulo Penang) an ovato-acuminate glabrous *follicle,* opening on one side, and containing one globose, dark-brown *seed,* surrounded by a beautiful, white, cup-shaped, fringed *arillus.*

For the introduction of this little-known plant to Britain, we are indebted to Dr. WALLICH, who sent seeds of it to Bretton Hall, whence the specimen here figured was obligingly communicated in November, 1830. It is a native of China, whence I have received dried specimens from my valued friend CHARLES MILLETT, Esq., of Ceylon and Malabar, and I possess the same species from the Horticultural Society of London, gathered in Prince of Wales's Island, differing only in the fruit being slightly pubescent. The DELIMA *nitida* of the New World, which I have received both from Mr. PARKER, gathered in Demerara, and from Mr. LOCKHART, gathered in Trinidad, very much resembles this, but its leaves are less rough, and the style is much shorter: or this latter may be the D. *hebecarpa,* which appears to me to differ only in the downy fruit from the D. *sarmentosa.*

Again the TETRACERA *multiflora,* D C. is closely allied to our plant, and at any rate should, I think, be placed in the same Genus; for the pistil is solitary: and although the flowers were unknown to De CANDOLLE, they are figured in De LESSERT's Icones; and the whole representation has the most perfect accordance with the present individual.

BURMAN tells us, upon the authority of HERMANN, that the plant is called *Koroswel* by the Cingalese, which signifies *to polish,* and that the rigid and scabrous leaves are used for that purpose. LOUREIRO says the same of his ACTÆA *aspera,* which grows about Canton, nor is his description of it much at variance with specimens which we have from the same country; so that I am rather inclined to reduce that plant, as a synonym to D. *sarmentosa.* De CANDOLLE has of that (and the same author's closely allied CALLIGONUM *asperum)* constituted the Genus TRACHYTELLA, on account of the berried, many-seeded fruit; but LOUREIRO expressly says, that he had not noticed the form of the seeds. In our plant, in which are probably abortive germens, I find many ovules.

Fig. 1. Flower, scarcely expanded. 2. Expanded Flower. 3. Stamens. 4. Pistil. 5. Section of the Germen. 6. Capsule *(nat. size).* 7. One half of the Capsule with its Seed and Arillus (from a dried Chinese specimen).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Bancroft M.D del.

Pub. by S. Curtis Walworth Feb.y 1.1831.

Swan Sc.

MONODORA MYRISTICA. JAMAICA CALABASH-NUTMEG

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Class and Order.

POLYANDRIA MONOGYNIA.

(Nat. Ord.—ANONACEÆ.)

Generic Character.

Cal. 3-sepalus, sepalis basi unitis. *Pet.* 6, basi unita; 3 exteriora oblongo-lanceolata, undulato-crispata, 3 interiora cordiformia, conniventia. *Antheræ* numerosæ, sessiles, basin germinis cingentes. *Germen* solitarium. *Stigma* sessile. *Bacca* lævis, subglobosa, 1-locularis. *Semina* in pulpa nidulantia.

Specific Character and Synonyms.

MONODORA* *Myristica;* baccis subglobosis magnis. *D C.*

MONODORA Myristica. *Dunal, Monogr. Anon. p.* 80. *De Cand. Syst. Veget. v.* 1. *p.* 477, *Prodr. v.* 1. *p.* 87. *Spreng. Syst. Veget. v.* 2. *p.* 604.

ANONA Myristica. *Gærtn. de Fruct. v.* 2. *t.* 125. *f.* 1.

AMERICAN NUTMEG. "*Long, Hist. Jam. v.* 3. *p.* 735." *Bancroft in Lunan, Hort. Jam. v.* 2. *p.* 10.

DESCR. "This grows," according to Dr. BANCROFT, "to a large, branching *tree,* in habit resembling the ANONAS. *Leaves* confined to the extremities of the branches, distichous, alternate, oblong, or sometimes obovate, somewhat cordate at the base, quite entire, nerved, veined, smooth, shining, of a bright, yet pale green above, paler still beneath, from four to five inches long, and from one to two

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* From μονος, one, and δωρα, *a gift,* in allusion to its solitary fruit.

inches broad: the *petioles* are short, grooved above. The *peduncles* opposite to the leaves, single-flowered, round, smooth, greenish-white, pendulous, four to seven inches long, generally single on the young branches, or, sometimes two, when one is at the base and the other towards the top. Occasionally the peduncles spring up on the lateral twigs of those branches, at from three to eight inches from the terminal leaves; these twigs being sometimes but half an inch or an inch and a half long, and bearing three to five leaves. In such cases, the peduncles shoot from the tips of the twigs. Near the summit of the peduncles is a bractea, reflexed when the flower is full blown, subcordate, acute, about twelve-nerved, green, crispato-undulate at the margin, slightly variegated with yellowish-red. *Flowers* fragrant; when beginning to expand, white, marked with purplish-brown spots; afterwards yellow and the spots brighter red. *Calyx* monophyllous, *tube* very short, *limb* deeply cleft into three unequal, coloured sepals, their margins crisped and waved: the sepal opposite to the bractea being shorter and narrower than the other two, which are somewhat coriaceous and ovato-acute. *Corolla* monopetalous, generally twice as long as the calyx; *tube* also short and reflexed; *limb* divided into six segments, arranged in a double series. Outer segments three, oblongo-ovate, their margins crisped and waved; of the same color as the calycine segments, the ground bright yellow, marked with rows of irregular spots or interrupted stripes of reddish-brown, extending from the centre obliquely outwards, the smaller calycine sepal only being sometimes variegated with greenish-yellow along the middle, and deep red at the margins. Inner segments three, from half to one-third shorter than the outer series, springing from the faux of the corolla by a short claw, cordate, convex, veined, yellowish-white externally, somewhat keeled on the back, downy and entire at the edges, which adhere slightly together, within concave, smooth, shining, of a very pale yellow colour, variegated with pale crimson spots. The number of both the calycine and corolline segments is liable to occasional variation, nor does their figure always precisely accord with the above description.

" *Stamens* closely set, in about eleven or twelve rows, on the receptacle: *filaments* none; *anthers* nearly sphærical, bilocular, yellowish-white, opening on each side, rather below the middle, by a roundish pore: *pollen* globular, yellowish, semitransparent. *Germen* nearly sphærical, yellowish-white, crowned with a sessile, flattened stigma." Dr. BANCROFT, on dissecting the recent germen, found it to be "thick and fleshy, having a small cavity in the centre, with globular ovules arranged around the whole internal surface, the seedstalk varying in length."

The fruit is figured and described by GÆRTNER as, "a simple, nearly globose, one-celled, glabrous, corticated *Berry*. *Receptacle* none, but the *Seeds* imbedded, without order*, in the pulp: they are ovato-oblong, angled by mutual pressure, ferruginous. *Integument* double. *Albumen* of the same form as the seed, fleshy, hard, sculptured with deep, nearly parallel lines, and a longitudinal furrow. *Cotyledons* foliaceous, cordato-lanceolate. *Radicle* rounded, directed to the hilum."

We are much indebted to Dr. BANCROFT of Jamaica for a drawing, and specimens both dried and in spirits, and for an accurate description of this rare and little-known plant. The fruit alone was described by GÆRTNER, under the name of ANONA *Myristica*, from Sir JOSEPH BANKS's Museum. According to the Hortus Jamaicensis, the *tree* is reported to have been brought from the continent of South America† and planted at the Retreat Estate, Clarendon, Jamaica, where it was described by LONG, but where it has since been destroyed. That author says of it, that the seeds are all packed close with singular regularity, so that after displacing them, it is impossible to restore them to the same order and compactness as before:—that they are impregnated with an aromatic oil, resembling that of the Eastern Nutmeg, from which they differ so little in flavour and quality, that they may be used for similar purposes in food or medicine; the only perceptible difference to the taste being that they are less pungent than the East Indian Nutmeg: and he recommends it to general cultivation. DUNAL, who had the use of Professor DE CANDOLLE's notes, made from dried specimens in Mr. LAMBERT's Herbarium, determined it to be a Genus widely distinct from ANONA, differing indeed in the structure of the petals and fruit, as Dr. BANCROFT correctly remarks, from all the other Genera of the Order. At this time, there is only one tree in Jamaica, near Stoney Hill, whence our specimens were taken, unless the report be correct, that a second exists at St. Thomas in the East.

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* Dr. BANCROFT justly observes, that it is only necessary to observe the disposition of the seeds, as represented in GÆRTNER's own figure, to perceive that their position is the very reverse of being "*absque ordine*", the hilum of each seed being regularly centrifugal, as might have been anticipated from the kind of arrangement which is to be seen in the ovules of the Germen.

† Mr. BROWN considers it more probable, that it was brought by the Negroes from some part of the West coast of Africa.

From the Genus Monodora is to be excluded the M. *microcarpa*, Anona *microcarpa* of Jacquin (Fragm. Bot. t. 44. f. 7), established by that author from the fruit of Mr. Brown's Cargillia *australis*, of the family of Ebenanaceæ; (See Brown's Bot. of Congo, p. 56) so that the Monodora *Myristica* is the only known species of the Genus.

A. Branch of Monodora *Myristica*, in flower; and *B*. Fruit (from Gærtner): *nat. size*.

Fig. 1. Portion of a Flower, the reflexed Limb of the Corolla being removed. 2. One of the inner Petals or Segments seen from within. 3. Stamen. 4. Section of the Germen. 5. 5. Seeds. 6. Albumen. 7. Section of the Albumen, to show the Embryo. 8. Embryo. Fig. 1—4. more or less *magnified*.

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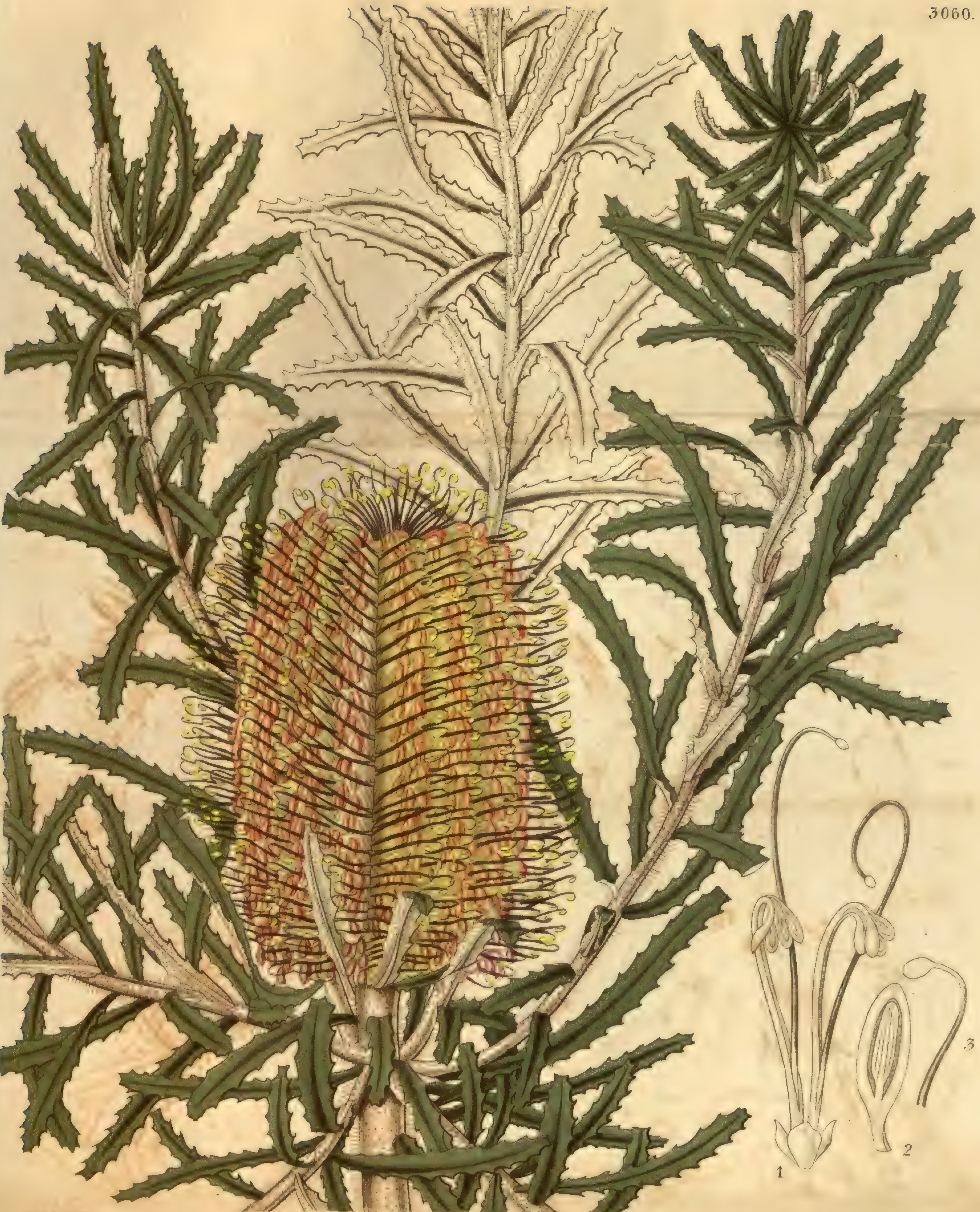

W. J. H. del.

Pub. by S. Curtis, Walworth. April 1. 1831

Swan Sc.

BANKSIA LITTORALIS? SHORE BANKSIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Perianthium quadripartitum (raro 4-fidum.) *Stamina* apicibus concavis laciniarum immersa. *Squamulæ* hypogynæ 4. *Ovarium* biloculare, loculis monospermis. *Folliculus* ligneus: *Dissepimento* libero, bifido. *Amentum* flosculorum paribus tribracteatis! *Br.*

Specific Character and Synonyms.

BANKSIA *littoralis?* foliis elongato-linearibus spinuloso-dentatis basi attenuatis subtus aveniis, perianthiis deciduis, folliculis compressis bracteisque strobili apice tomentosis, caule arboreo, ramulis tomentosis. *Br.*

BANKSIA littoralis? *Br. in Linn. Soc. Trans. v.* 10. *p.* 205? *Prodr. Fl. Nov. Holl. p.* 392? *Ræm. et Schultes, Syst. Veg. v.* 3. *p.* 438? *Spreng. Syst. Veg. v.* 1. *p.* 485? *(excl. syn.) Bot. Reg. t.* 1363.

DESCR. *Shrub* erect. *Branches* ascending, purple, villous. *Leaves* scattered, pubescent when young, naked and dark green above when old, densely covered with snowy tomentum beneath; on short, erect *petioles,* linear, truncated, spinuloso-serrated, veinless, slightly revolute at the edges. *Amentum* (four inches long, three inches broad to the extremities of the styles) terminal, upon a short, leafy, *peduncle,* the branches rising far above it, from a whorl at its base. *Flowers* in pairs, forming rather distant double lines along the *rachis,* with which, when fully expanded, they are nearly at right angles, expanding from above downwards. *Bracteas* tomentose, green where exposed,

yellow where included, either solitary, rhomboid, subacute, with the apex turned up, when they are placed between the flowers, or geminate, round, and placed above or below them. *Calyx* four-parted, covered with appressed pubescence; *claws* linear, yellow, the spoon-shaped segments of the *limb* reddish, nodding. *Anthers* elliptical, subsessile in the cavities of the calyx. *Style* twice as long as the calyx, shining, of a deep purple colour except at the base and apex, where it is yellow, deciduous, rigid, apex nodding. *Stigma* an abrupt, glandular, scarcely-swollen termination to the style, retained for a time within the calyx, as in the other species, and when liberated, covered with the yellow, granular *pollen*, which gives it a capitate form.

This species flowered in the greenhouse of the Edinburgh Botanic Garden, in November, 1830, immediately after B. *speciosa*, figured at t. 3052 of this work, and continued also in blossom at the same time with it; the two species forming a good contrast in their colours and manner of flowering. The present seems quite different from B. *microstachya* of Cavanilles and B. *attenuata* of Brown, with both of which Sprengel unites his B. *littoralis*.

I have assigned the specific name to this plant doubtfully, and have quoted all the authorities above cited, with hesitation; excepting the Botanical Register; because there seems some reason to question its identity with the plant sent from New Holland by Mr. Brown, and cultivated at Kew, under the specific appellation of B. *littoralis*. The specimen which flowered with us was received in 1828 from Mr. Mackay of Clapton, without a name; again in 1829, he kindly communicated a seedling, marked B. *collina*, which has proved to be the same, differing only in being destitute of veins on the back of the leaf. I have a specimen from Mr. Fraser, of a plant that must rank very near this, and is chiefly distinguishable by its leaves being longer, narrower, and quite entire, except near the apex, where there are four small teeth, and by the branches being much less hairy. In colour and in the manner of flowering, it perfectly coincides. *Graham.*

Fig. 1. Two Flowers. 2. Stigma, with part of the Style.—*Magnified.*

W.J.H. del.

Pub by S. Curtis Walworth. April 1.1831.

(3061)

HUNNEMANNIA FUMARIÆFOLIA. FUMITORY-LEAVED HUNNEMANNIA.

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Class and Order.

POLYANDRIA MONOGYNIA.

(Nat. Ord.—PAPAVERACEÆ.)

Generic Character.

Cal. diphyllus, caducus. *Cor.* 4-petala. *Antheræ* lineares. *Stigma* subsessile, peltatum, 4-lobum. *Caps.* siliquiformis, 1-locularis, bivalvis; *Semina* valvarum marginibus affixa.

Specific Name and Synonym.

HUNNEMANNIA * *fumariæfolia.*
HUNNEMANNIA fumariæfolia. *Sw. Br. Fl. Gard. t.* 276.

DESCR. *Stem* erect, rounded, smooth, glabrous, glaucous. *Leaves* petioled, triternately divided, their segments linear, rather obtuse, glaucous-green: *petiole* linear, compressed. *Peduncle* solitary, terminal, rounded, glabrous. *Flower* large, handsome, of an uniform beautiful clear yellow. *Calyx* of two ovate, concave, glabrous, opposite leaves. *Corolla* of four, at length spreading, concave, waved, broadly obovate, or almost roundish *petals. Stamens* numerous, orange-coloured. *Filaments* short: *Anthers* linear, two-celled, scarcely so long as the filaments. *Pistil* solitary. *Germen* oblong, tapering upwards into a very short *style*. *Stigma* peltate, four-lobed ; the lobes spreading and velvety. *Capsule* siliquiform, with ten prominent ribs, one-celled, two-valved, many-seeded. *Seeds* attached to the marginal sutures, oval, dotted, sessile.

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* Named by Mr. SWEET, in compliment to JOHN HUNNEMAN, Esq. of London, who has devoted a long life to furthering the cause of Botanical science, by facilitating the intercourse between Naturalists of this country and of the Continent, and by introducing many new seeds and plants to our collections. Probably there is not a Botanist, who has not derived advantage from the friendly services of Mr. HUNNEMAN, and no one perhaps more than myself.

This interesting plant is a native of Mexico, and was introduced to this country by the late Mr. BARCLAY, a name that will be long revered by the Botanist and Cultivator in this country, and to whom I am indebted for the specimens here figured. They were produced in the open border at Bury Hill.

The Genus is allied, as Mr. SWEET observes, to MECONOPSIS ; but still more so, to the beautiful ESCHSCHOLZIA, especially in the foliage, the general structure of the flower, and the siliquiform capsule: but it differs in the peltate, four-lobed stigma, in the two-leaved calyx, in the small receptacle of the parts of the flower, and in the sessile seeds.

Fig. 1. Bud. 2. Flower, from which the Calyx is fallen, but with its Petals not fully expanded. 3. Stamen. 4. Pistil. 5. Capsule *(nat. size)*. 6. Section of the Capsule. 7. Seed *(scarcely mature)* :—more or less *magnified.*

3062

J. del.

Pub by S Curtis Walworth April 1.1831

Sw.

VERNONIA ACUTIFOLIA. SHARP-LEAVED VERNONIA.

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Class and Order.

SYNGENESIA POLYGAMIA ÆQUALIS.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Involucrum imbricatum. *Flosculi* tubulosi. *Pappus* duplex : *ext.* paleaceus : *int.* pilosus. *Receptaculum* nudum.

Specific Character and Synonym.

VERNONIA * *acutifolia;* foliis lineari-lanceolatis attenuatis subdentatis glabriusculis, floribus alternis secundis sessilibus.

VERNONIA acutifolia. *Hortul.*

DESCR. *Stem* elongated, slender, terete, smooth, or in the younger branches very slightly hairy. *Leaves* four to six or seven inches long, almost sessile, linear-lanceolate, gradually but much attenuated, submembranaceous, the margin slightly toothed, dark green and glabrous above, beneath paler, and very obscurely hairy; nerves oblique. *Flowers* solitary, or two together in the axils of the upper leaves and secund, sessile. *Involucre* ovate, imbricated: the outer and greater number of the scales are ovate-acuminated, green, the point acuminated, rather rigid, and more or less reflexed; the innermost row, next the florets, are linear-spathulate, the upper and broad part rose-coloured, the rest green. *Florets* numerous, tubular, purplish rose-

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[*] Named after WILLIAM VERNON, a Botanist and American Traveller, whose Herbarium came into the possession of Sir HANS SLOANE.

rose-colored, five-cleft, the segments linear, patent. *Stamens* exserted, purplish. *Stigmas* recurved, purplish, downy. *Germen* obovate, silky. *Pappus,* with the outer paleæ very narrow, short; the inner ones capillary and scabrous.

The present plant was communicated to the Glasgow Botanic Garden from that of Bayswater, under the hitherto, I believe, unpublished name of VERNONIA *acutifolia,* but without any native country being mentioned; as, however, I possess the same species, gathered by the late Mr. BOOG, near Rio, in Brazil, our plant here figured, in all probability, is of Brazilian origin also. Its nearest relative is, doubtless, the V. *sericea, β purpurascens,* figured in the Botanical Register, t. 522: but that has the leaves considerably broader, and silky on both sides. Still, the present may possibly prove a narrow and nearly glabrous-leaved variety of it.

The present plant blossomed in our stove in the month of December : a season when flowers less showy than the present are always acceptable.

Fig. 1. Floret. 2. Inner Scale of the Involucre. 3. 3. Outer Scales of ditto. 4. Portion of the outer and inner Pappus.—*Magnified.*

3063.

W.J.H. del.

Pub. by S. Curtis, Walworth, April 1. 1831

DRYANDRA NERVOSA. NERVED-LEAVED DRYANDRA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Perianthium quadripartitum vel quadrifidum. *Stamina* apicibus concavis laciniarum immersa. *Squamulæ* hypogynæ 4. *Ovarium* biloculare, loculis monospermis. *Folliculus* ligneus: *dissepimento* libero, bifido. *Receptaculum commune* planum, floribus indeterminatim confertis; *paleis* angustis, raro nullis. *Involucrum commune* imbricatum. *Br.*

Specific Character and Synonyms.

DRYANDRA* *nervosa;* foliis profunde pinnatifidis subtus ferrugineo-tomentosis, lobis linearibus subfalcatis mucronatis nervosis basi dilatatis, involucri bracteis oblongo-ovatis ferrugineo-tomentosis, perianthii laciniis linearibus fulvo-hirsutis apice barbatis.

DRYANDRA nervosa. "*Mackay, MSS. Catal.*" *Sweet Fl. Australasica, t.* 22.

DESCR. A small *shrub*, about two feet high, with downy, stout, tortuose *branches*. *Leaves* nearly a foot long, including the *petiole*, deeply pinnatifid, coriaceous, dark green above, clothed with rusty down beneath, the segments one to two inches long, broadly linear, dilated at the base, acute at the point, marked with three to four parallel nerves:

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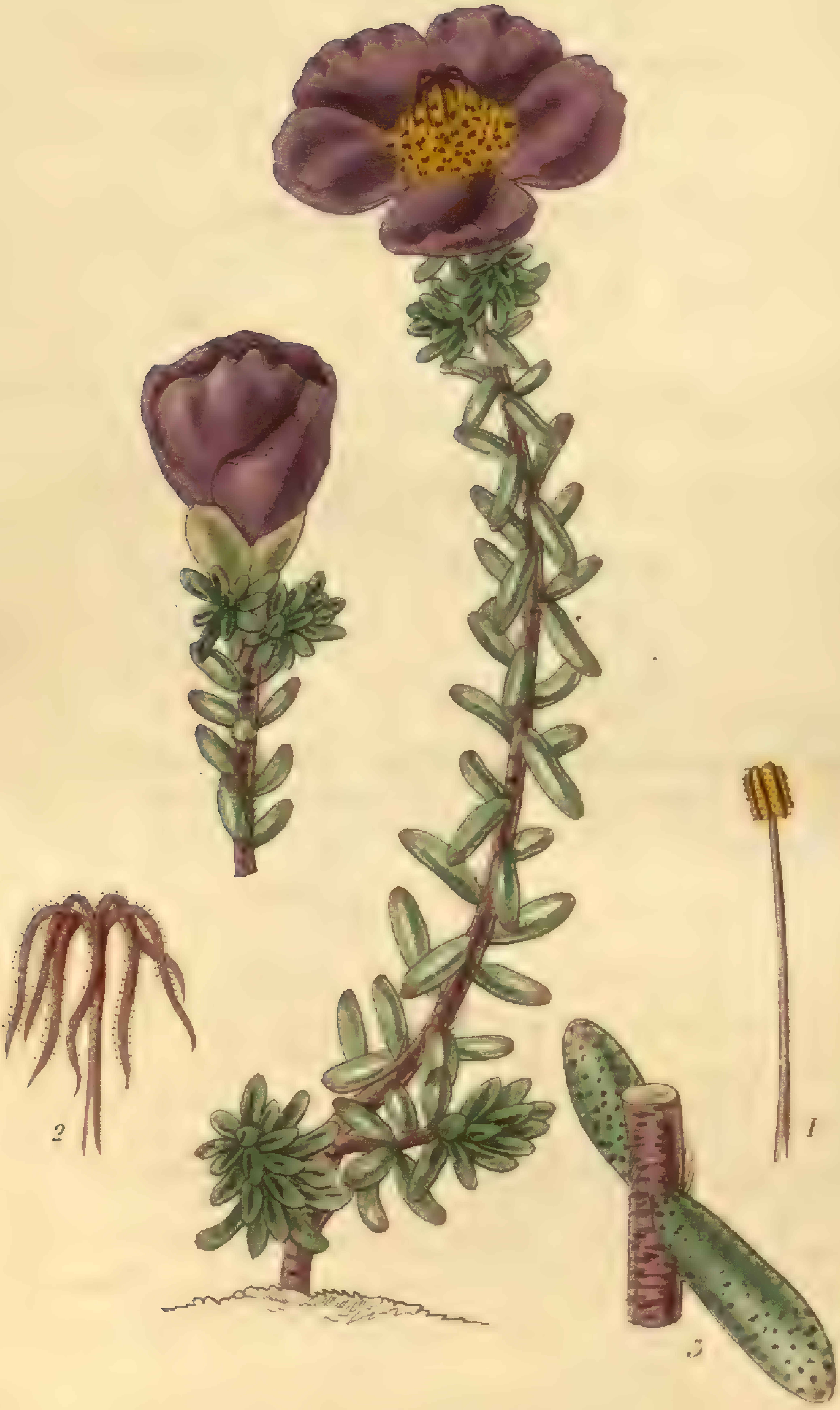
[*] Named in compliment to the eminent and learned Swedish Botanist, librarian to Sir JOSEPH BANKS, JONAS DRYANDER.

nerves: *petioles* four to five inches long, rounded, clothed with rusty down. The young leaves are covered all over with a rich velvety, red tomentum. *Head of Flowers* terminal, moderately large, handsome, surrounded at the base by an involucre of many imbricated, oblongo-ovate leaves or bracteas; thickly clothed with rusty-coloured down. Small, subulate *scales* are mixed with the flowers. *Perianth* tubular, cut nearly half-way down into four, narrow-linear, dull orange-coloured, erect laciniæ, hairy without, and bearded at the extremity. Within each of these laciniæ, lodged in a groove, is a linear *anther*. *Germen* linear-oblong. *Style* filiform. *Stigma* clavate.

The present is one of the many fine Australian PROTEACEÆ for which our collections are indebted to Mr. MACKAY of the Clapham Nursery; and by him plants were communicated to the Liverpool Botanic Garden, where the flowering specimen here figured was produced in September, 1830. It is a native of the South coast of New Holland, whence the seeds were procured by Mr. BAXTER. It is a plant of considerable beauty, and of much variety of colouring.

Fig. 1. Flower. 2. Segment of the Perianth, with its Stamen. 3. Pistil. —*Magnified.*



Pub by S. Curtis Walworth April 1.1831.

(3064)

PORTULACA GILLIESII. DR. GILLIES' PURSLANE.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—PORTULACEÆ.)

Generic Character.

Cal. aut liber aut imo ovario adhærens, bipartitus, demum circumscissus et deciduus. *Pet.* 4—6, æqualia, inter se libera, aut ima, basi concreta, calyci inserta. *Stam.* 8—15 (v. plura,) *filamentis* liberis interdum ima corolla adnatis. *Ovarium* subrotundatum. *Stylus* 1, apice 5—6- (9-) fidus, aut stylus nullus et *stigmata* 3—8 elongata. *Capsula* subglobosa, 1-locularis, medio circumscissa: *Semina* plurima placentæ (v. placentis tot stigmata) centrali affixa. *D C.*

Specific Character.

PORTULACA *Gilliesii;* caulibus suberectis basi ramosis, foliis oblongo-cylindraceis subcompressis obtusis punctatis, pilis axillaribus fasciculatis erectis appressis, floribus terminalibus, petalis calyce longioribus.

DESCR. Perennial. *Stem* nearly erect, four to five inches high, stout in proportion to its length, purplish with transverse whitish lines, branched, the branches short, principally at the base of the stem, sometimes at the extremity. *Leaves* scattered, remote and reflexi-patent on the stem, dense and rosulate on the branches, linear-oblong, tereticompressed, obtuse, green, rosy at the top, and punctated with white, pellucid dots. In their axils is a tuft of white, erect, appressed hairs. *Calyx* of two rather unequal, broadly oval, membranaceous leaves, scariose and white at the margin. *Petals* five, bright red-purple, patent, broadly obovato-rotund, waved. *Filaments* numerous, deep purple.

Anthers roundish, orange. *Style* filiform. *Stigmas* seven, subulate, reflexed, downy.

For this new species of PORTULACA, as well as for the scarcely more beautiful one, P. *grandiflora*, (t. 2885) we are indebted to Dr. GILLIES, who communicated seeds from the plains of Mendoza. With us the plant flowered in the greenhouse in August. Like all other succulent plants from the same country, these two species of PORTULACA should be kept dry, especially during winter.

The short, dotted, very obtuse leaves, the upright and appressed axillary tuft of hairs, together with the large size of the blossoms, afford abundant characters for distinguishing the present species.

Fig. 1. Stamen. 2. Style and Stigmas. 3. Portion of the Stem and Leaves.—*Magnified.*

3065.

Pub. by S. Curtis, Walworth April 1.1831.

INDIGOFERA ATROPURPUREA. BLOOD-FLOWERED INDIGOFERA.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. 5-fidus, lobis acutis. *Vexillum* rotundatum, emarginatum. *Carina* utrinque calcare subulato notata, demum sæpe elastice deflexa. *Stam.* diadelpha. *Stylus* filiformis, glaber. *Legumen* teretiusculum, aut planum aut tetragonum, polyspermum, bivalve, rarius oligospermum, ovatum, imo monospermum subglobosum. *Semina* ovata, utrinque truncata, isthmis cellulosis sæpe disjuncta. *D C.*

Specific Character and Synonyms.

INDIGOFERA *atropurpurea;* caule fruticoso erecto, foliis pinnatim 5-jugis, foliolis ovato-ellipticis obtusis mucronatis margine subundulatis, junioribus adpresse pubescentibus, adultis glabris, racemis axillaribus gracilibus inferioribus longitudine foliorum, leguminibus pendulis rectis compressis 8—10-spermis.

INDIGOFERA atropurpurea. *" Hamilt. in Hort. Hafn. add. p. 152." Don, Prodr. Fl. Nepaul, p. 244. De Cand. Prodr. v. 2. p. 225. Spreng. Syst. Veg. Cur. post. p. 285.*

DESCR. A *shrub* three to five feet high, with a straight, simple *stem,* and few *branches;* the young and tender parts somewhat villous. *Leaves* pinnate, from six to twelve inches long. *Leaflets* opposite, six to eight pairs, shortly petioled, oval, entire, smooth on both sides; their general size about an inch and a half long by one inch broad.

Stipules subulate; those of the petiole caducous, of the leaflets (each pair of which have two) permanent. *Racemes* axillary; by the time the flowers have fallen, considerably longer than the leaves, sometimes twice their length. *Flowers* numerous, scattered, before expansion imbricated, large, dark purple. *Bracteas* one-flowered. *Legumen* cylindrical, smooth, reflexed, six- to twelve-seeded. *Roxb. MSS.*

To the preceding account may be added, that the shrub grows very large, and when in full blossom is highly ornamental on account of its numerous long spikes of dark purple flowers. It is common in the forests of Nepal, and, according to Dr. ROXBURGH, was introduced thence into the Calcutta Botanic Garden in 1802, by Dr. HAMILTON.

Dr. ROXBURGH observes that, " the same plant has been reared from American seeds, sent without a name from Philadelphia, by Mr. WILLIAM HAMILTON." It is very possible that the Nepal plant may have been introduced into Mr. HAMILTON's garden at Philadelphia, and accidentally returned again to Calcutta; or that Dr. ROXBURGH may have mistaken a nearly allied species for his I. *atropurpurea;* but the former assumption is the most probable. *Wallich.*

Fig. 1. Flower, *magnified.* 2, 3. Fruit, *nat. size.*

3066.

W. J. H. del.

Pub by S. Curtis Walworth April 1. 1831

(3066)

PLADERA DECUSSATA. DECUSSATE PLADERA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—GENTIANEÆ.)

Generic Character.

Cal. elongatus, 4-dentatus. *Cor.* infundibuliformis, limbo irregulari. *Stamen* unicum reliquis minus. *Stigma* bilobum. *Capsula* supera, 1-locularis, 2-bivalvis. *Semina* numerosa.

Specific Character and Synonyms.

PLADERA[*] *decussata;* annua, caule erecto 4-alato, ramis decussatis, foliis ovato-lanceolatis 3-nerviis, floribus terminalibus trichotome paniculatis. *Roxb.*

PLADERA decussata. *Roxb. in Fl. Ind. v.* 1. *p.* 478. *Spreng. Syst. Veget. v.* 1. *p.* 427.

DESCR. *Root* small, annual, fibrous. *Stem* scarcely a span high, erect, glabrous, four-sided, the angles four-winged, branched, the branches decussate, equally four-winged. *Leaves* few, opposite: the lowest roundish-oval, the rest ovato-lanceolate, all three-nerved, entire; the uppermost small, bracteiform. *Flowers* in a trichotomous *panicle; peduncles* and *pedicels* four-winged: the flowers jointed on the pedicels. *Calyx* elongated with four winged keels, four-toothed. *Corolla,* with the tube as long as the calyx, infundibuliform; the *limb* three-lobed, lobes rounded, the lower one bifid, (two united,) keeled at the back. *Stamens* four, of which three are alternate with the large lobes, and the fourth smaller and apparently abortive; one is situated within the keel of the lower lobe: this has a thickened, clavate *filament*, and a small, ovate *anther*, whereas the others have filiform filaments and oblong anthers. *Germen* cylindrical, one-celled, many seeded: the *seeds* attached to the sutures of the valves: *Style* filiform, shorter than the germen: *Stigma* two-lobed.

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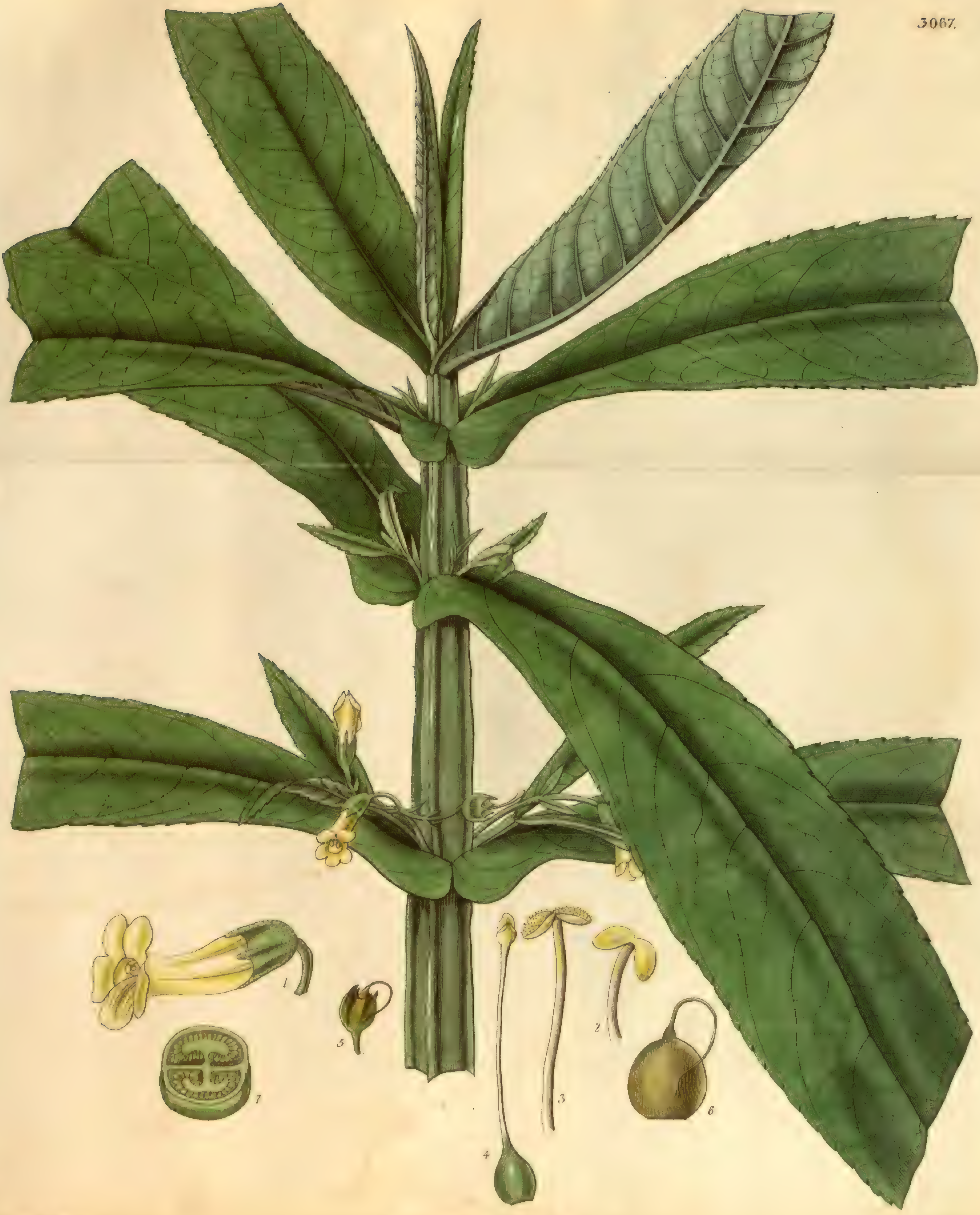
[*] From πλαδαρος, *full of moisture;* perhaps from growing in moist situations, certainly not from the nature of the plant itself.

Two species of this Genus were referred by LINNÆUS to EXACUM, a third constituted the Genus CANSCORA of LAMARCK; but this was so imperfectly defined, that the MSS. name of PLADERA of SOLANDER has been preferred, established by ROXBURGH in the Fl. Indica, and adopted by CHAMISSO and SCHLECHTENDAL in the LINNÆA, and by SPRENGEL in his Systema Vegetabilium. Five species are described by Dr. ROXBURGH. The present one seems to accord with his P. *decussata*, an inhabitant, indeed, of Bengal; whereas, our plants, which flowered in the stove of the Glasgow Botanic Garden, in July, 1830, were raised from seeds communicated by Dr. LINDSAY, from Nepal.

Fig. 1. Flower. 2. Upper portion of the Corolla, cut open to show the Stamens. 3, 4. Stamens. 5. Pistil. 6. Section of the Germen.—*Magnified.*

3067.



Dr Greville del.
Pub by S. Curtis Walworth. May 1.1831.
Swan Sc.

(3067)

Mimulus perfoliatus. Perfoliate Monkey-Flower.

Class and Order.

Didynamia Angiospermia.

(Nat. Ord.—Scrophularineæ.)

Generic Character.

Calyx tubulosus, angulatus, 5-dentatus. *Corolla* personata; labio superiore bilobo lateribus reflexo; inferiore trifido, laciniis subæqualibus. *Stamina* 4, didynama. *Antherarum* lobis divaricatis. *Stigma* bilamellatum. *Capsula* calyce inclusa, bilocularis, loculicido-bivalvis; valvis integris. *Kunth.*

Specific Character and Synonyms.

Mimulus [*] *perfoliatus;* caule erecto alato, foliis lanceolatis amplexicaulibus brevi-pubescentibus pedunculo axillari solitario subcymoso multo longioribus. *Graham.*

Mimulus perfoliatus. *Humb. et Kunth, Nov. Gen. v. 2. p.* 298. *Spreng. Syst. Veget. v. 2. p.* 799.

Conobea alata. *Graham, in Ed. New Phil. Journ. Oct.* 1830. *p. 3.*

Descr. *Root* creeping. *Stem* (two feet and a half high) erect, glabrous, shining, four-sided, four-winged, wings undulate, and sparingly ciliated. *Branches* decussating, spreading widely similar to the stem. *Leaves* (ten inches long, two broad) opposite, spreading horizontally, acutely serrulate, lanceolate, attenuated and entire towards the base, at their origin dilated and stem-clasping, much veined and reticulated, soft, covered on both sides with very short pubescence, bright green above, somewhat glaucous below, middle-rib very strong, and with the veins prominent below. *Peduncles* axillary, opposite, four-sided, closely applied to the upper surface of the leaves, and (including the pedicels) about a fifth of their length, pubescent, bracteate, trifid, the lateral branches again dividing in the same way; *pedicels* like the peduncles, but less distinctly angled. *Bracteas* lanceolate, entire, acuminate. *Calyx* green, oblique, five-ribbed, five-toothed, pubescent on the outside, persisting. *Corolla* (eight lines long, four and a half across) yellow, bilabiate; *tube* elongated, compressed laterally in its lower, vertically in its upper half, nearly thrice the length of the calyx; upper lip bifid, revolute, lower lip spreading forwards, plicate, trifid, revolute at the apices, all the lobes rounded; two very prominent ridges, very hairy, and somewhat orange-coloured, extend backwards into the corolla from the central lobe of the lower lip. *Stamens* didynamous, included; *filaments* glabrous, yellow, adhering to the corolla for about half their length, connivent; *anthers* bilobular, lobes divergent; *pollen* white. *Pistil* as long as the stamens; *stigma* bifid, white, lobes broad, revolute, upper surface pubescent; *style* straight, white, filiform, glabrous, marcescent; *germen* ovate, green, glabrous, four-valved, bilocular; *ovules* very numerous, attached to a large central receptacle, a transverse section of which presents a kidney-shaped surface in each loculament.

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[*] From *μιμω, an ape,* which the flowers are supposed to resemble.

This plant was raised in the garden of P. Neill, Esq. at Canonmills, from Mexican seeds, communicated by Mr. D. Don, as probably, a species of Conobea, and flowered in the greenhouse, in September, 1830. *Graham.*

Since the above was written, Mr. Don has had an opportunity, in the garden of Messrs. Whitley & Co., of examining specimens of this plant, flowering freely in the open air, and has determined it to be a Mimulus, nearly allied to, if not the same as, M. *perfoliatus* of Humboldt and Kunth. Their description, indeed, so well accords with our plant, that I have little hesitation in adopting the name.

Fig. 1. Flower. 2. Back view of an Anther. 3. Front view of ditto. 4. Pistil. 5. Young Fruit: *nat. size.* 6. Immature Capsule. 7. Section of a nearly ripe Germen.—All but fig. 5, more or less *magnified.*

W. J. H. delt Pub: by S. Curtis Walworth May 1. 1831. Swan Sc

(3068)

ERANTHEMUM STRICTUM. UPRIGHT ERANTHEMUM.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—ACANTHACEÆ.)

Generic Character.

Cal. 5-partitus, æqualis. *Cor.* hypocrateriformis, limbo 5-partito, æquali v. parum inæquali. *Stam.* 2 antherifera, exserta. *Antheræ* loculis parallelis muticis. *Filamenta* 2 sterilia. *Ovarii* loculi dispermi. *Caps.* valvulæ naviculares, dissepimento adnato. *Semina* retinaculis subtensa. *Br.*

Specific Character and Synonyms.

ERANTHEMUM* *strictum;* suffruticosum, erectum, pubescens, ramis adscendentibus decussatis simplicibus, foliis lanceolatis obscure crenulatis, spicis terminalibus gracilibus valde elongatis, bracteis oppositis decussatis unifloris demum remotis. *Wall.*

ERANTHEMUM strictum. *"Colebr." Wall. in Fl. Ind. v.* 1. *p.* 114. *Bot. Reg. v.* 10. *t.* 867.

DESCR. A small *shrub,* of about four or five feet in height, slightly covered with short hairs. *Stem* almost round, jointed, sending out quadrangular, slender *branches* in remote pairs. *Leaves* about four inches long, acute at each end; their margins somewhat revolute and crenulate, smooth, shining, and of a peculiar greyish green colour above, very pale, and with prominent, hairy, and reticulated nerves and veins below. The uppermost or floral leaves,

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* From *εαρ, spring,* and *ανθος, a flower.* Sir J. E. SMITH suspects from *ερος, love,* on account of the beauty of the flower.

at the base of the spikes, approach to the size and figure of the bracteas. *Petioles* about an inch long, flattened above, and slightly marginated by the decurrent base of the leaf. *Spikes* solitary, erect, one to two feet long. *Rachis* sharply quadrangular, almost four-winged. *Flowers* large, dark blue, opposite, in alternate pairs, which become remote as the spike lengthens. *Bracteas* appressed, imbricating, their extremities cuneato-lanceolate, dark green, acute, ciliated, about an inch long; the lowermost barren, and becoming floral leaves. Interior two very small, scarcely longer than the five calycine segments, and like them linear, pubescent. *Tube* of the *Corolla* slender, pubescent, slightly enlarged towards the mouth, about twice the length of the outer bractea. *Segments* obovate, truncate, spreading, and flat, equal, very pale below. Two filiform, barren stamens are between the *filaments*. *Anthers* in the mouth of the corolla, with parallel cells.

This is almost an equally desirable inmate of the stove with the well-known E. *pulchellum*, for although the flowers are not so numerous as in that species, yet they are individually larger, and quite as beautiful in colour.

Our collections are indebted for its introduction to Dr. Wallich. The plant from which our figure was taken, flowered in the hothouse of the Glasgow Botanic Garden; but being a native of Nepal, it will probably succeed equally well in the greenhouse.

Fig. 1. Calyx and Bracteas. 2. Stamens. 3. Pistil.—*Magnified.*

W. J. H. delt.

Pub: by S. Curtis Walworth May 1. 1831.

Swan sc.

BROWALLIA GRANDIFLORA. LARGE-FLOWERED BROWALLIA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. tubulosus, 5-fidus. *Cor.* tubo apice subinflato, *limbo* hypocrateriformi, lobis subæqualibus. *Stam.* inclusa. *Antheræ* inæquales. *Caps.* 2-locularis, 2-valvis. *Spr.*

Specific Character and Synonyms.

BROWALLIA* *grandiflora;* caule diffuso ramoso, foliis ovatis acutis, pedunculis axillaribus unifloris vel in racemis terminalibus dispositis, ramulis calycibusque adultis glabris.

BROWALLIA grandiflora. *Bot. Reg. t.* 1384*?* *Graham in Edin. Phil. Journ. Dec.* 1830.

DESCR. Annual. *Stem* herbaceous, diffused, branched, smooth, green, purplish below; branches spreading, smooth and shining, scattered. *Leaves* ovate, acuminate, attenuated into a petiole, smooth and shining, the middle rib and converging veins prominent below, and channelled above. *Peduncles* straight, single-flowered, axillary, and longer than the diminished leaves near the termination of the branches, or collected into lax, terminal racemes, when young glanduloso-pubescent. *Calyx* five-cleft, smooth, or, when young, glanduloso-villous, many-nerved, nerves branching; segments unequal, spreading, linear, channelled. *Corolla* hypocrateriform; tube longer than

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* Named after JOHN BROWALL, a Swede, Bishop of Abo, in 1743. The intimacy and subsequent rupture between BROWALL and LINNÆUS, were commemorated by the latter in the specific appellations which he bestowed on the only three individuals of the Genus then known. B. *elata* expresses the degree of their union; B. *demissa,* its cessation; while the ambiguous name of the third species, B. *alienata,* while it intimates the uncertain characters of the plant, implies also the subsequent difference between the parties.

the calyx, slightly inflated towards the top, and compressed vertically, glanduloso-villous, greenish-yellow, marked, as well as the calyx, with dark streaks; *limb* plicate in the bud, when expanded flat, white, or very pale lilac, with a yellow throat, yellow on the outside, bilabiate, the upper lip linear and emarginate, the lower much larger, semicircular, formed of four united, obcordato-cuneate lobes, each smaller than the upper lip. *Stamens* didynamous, adhering to the inside of the tube, the two longer ones closing the throat of the corolla with the upper part of their filaments, which is bent down, flattened and hairy above, their anthers included, having one perfect and one abortive lobe, divaricated, compressed, and opening along their upper edge; *filaments* of the shorter stamens flexuose at the top, filiform and smooth, their anthers bilobular, both the lobes perfect, divaricated and compressed, bursting along their upper edges; *pollen* and *anthers* of all the stamens yellow. *Germen* ovate, and slightly compressed, pubescent, bilocular, bivalvular, the dissepiment proceeding from the centre of the valves across the shorter diameter of the germen; *seminal receptacle* large, central, covered with numerous ovules. *Style* filiform, glabrous, longer than the shorter, shorter than the longer stamens, tortuose at the top. *Stigma* quadrangular, peltate, green, obscurely four-lobed, having two depressions or cells in the upper margin, where the anthers of the longer stamens are lodged, and two obscure depressions on the lower side, where the anthers of the shorter stamens appear to be placed.

I am indebted to Dr. HOOKER for the description of the style and stigma, and for some observations regarding the anthers, for the style was lost in the only flower which I reserved for dissection, when the specimen was sent to him to be figured in the Botanical Magazine. The anthers on the longer and shorter stamens appeared to him to be alike, reniform, and one-celled; but I am quite certain that the above description of what I saw is accurate: the appearance probably varying from abortion.

We received this plant from the Botanic Garden, Glasgow, in October last, having been raised there from seeds collected by Mr. CRUCKSHANKS, near Yazo, in the valley of Canta, in Peru. It is now (December) flowering very freely in the greenhouse, and probably will be found to bear cultivation as a very ornamental annual in the open border. *Graham.*

The plant figured in the Botanical Register above quoted, has the flowers considerably smaller and the leaves more cordate than in Dr. GRAHAM's, and appears to be raised from seeds of another kind of BROWALLIA, in Mr. CRUCKSHANKS' Herbarium, which I have rather been disposed to consider as B. *demissa*.

Fig. 1. Portion of the Corolla with Stamens and the upper part of the Style. 2. An upper Stamen. 3. A lower ditto. 4. Anthers of a lower Stamen. 5. Pistil. 6. Stigma. 7. Section of the Germen:—*Magnified.*

3070.

W. J. H. delᵗ. Pub: by S. Curtis, Walworth, May 1. 1831 Swan Sc.

SCHIZANTHUS HOOKERI. ACUTE-PETALED SCHIZANTHUS.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Corolla irregularis, labio superiore quinquefido, inferiore tripartito. *Stamina* 2 antherifera, 2 sterilia, filamentis villosis. *Capsula* bilocularis.

Specific Character and Synonyms.

SCHIZANTHUS *Hookeri;* corolla tubo limbum æquante, labio inferiore longe bicornuto, labii superioris lobo medio longe acuminato.

SCHIZANTHUS Hookeri. *Gillies MSS. Graham in Edin. Phil. Journ.* 1830.

DESCR. Biennial? *Stem* herbaceous, stout, branched. *Branches* diffuse, whole surface covered with glandular pubescence. *Leaves* variable, once or twice pinnatifid, *laciniæ* incised. *Pedicels* (three-fourths of an inch long) secund, both in flower and fruit, erect. *Flowers* in large branching, terminal, bracteated *panicles*. *Calyx* persistent, five-parted, four of the segments suberect, the upper rather shorter than the next, while the longest, which is closely applied to the underside of the tube of the corolla, is considerably longer than any of the others, at least in the cultivated specimens. *Corolla* an inch across in both directions, slightly pubescent externally, two-lipped; upper lip, as in the other species, three-lobed, the central lobe much narrower than in S. *porrigens*, or S. *pinnatus* (the latter certainly distinct from S. *pinnatus* of RUIZ and PAVON) entire, with prominent edges forming the throat, with its sides revolute towards the apex, and drawn out to a long, erect point, which, as well as its base, and the whole remainder of the corolla, is of an uniform pale rose lilac, rather darker and somewhat streaked on the outside, the centre orange-coloured, with a few dark purple streaks; lateral lobes bipartite, each segment bifid; lower-lip tripartite, lateral segments linear, very narrow, spreading, and half the length of the central one, which is notched, and each segment is drawn out into a long beak; tube slightly curved, laterally compressed, and longer than the limb. *Stamens* four; *filaments* pubescent at the base, the two upper ones very short, abortive, and projecting forwards from the edge of the central lobe of the upper lip, at its base, the two others rising from the base of the lower lip, nearly reaching to the fissure in its central lobe, and as in the other species, retained within this till the pollen is ripe, after which they advance, and pass forward in straight, parallel lines from the centre of the flower: *anthers* large, green, broadly elliptical, notched at their base, bilobular, bursting along their inner surface; *pollen* greenish-yellow. *Stigma* very minute, terminal. *Style* rather longer than the stamens, ascending at its extremity, lilac. *Germen* small, conical, yellow, bilobular. *Ovules* numerous, attached to a central receptacle in each loculament, *capsule* ovate, longer than the calyx, two-valved, valves bifid. *Seeds* brown, dotted, somewhat scaly, reniform, or so much bent round that their extremities meet.

This remarkably distinct species of SCHIZANTHUS was raised by JAMES BOOG, Esq. in his garden at Portobello, from seed brought to this country by my excellent friend, Dr. GILLIES, having been gathered by him in various places on the Chilian side of the Cordillera of the Andes, at an elevation of eight or nine thousand feet above the level of the sea. The seed was sown in the spring of 1829, in the open border, and the plants not having flowered, they were taken into the house during winter, and replanted abroad in March. The flowers began to appear in June, and were abundantly produced during the whole summer. Thus treated, SCHIZANTHUS *Hookeri* has proved itself of biennial duration, at least; whether it may be longer lived, or whether, if raised in a greater degree of heat, the plant might not have blossomed in the first year and afterwards died, I am unable to say. Dr. GILLIES obligingly informed me when the flowers first appeared, expressing his conviction, that the species was hitherto undescribed; he also narrated its most characteristic features, and enclosed a specimen. *Graham.*

Fig. 1. Flower, *magnified.* 2. Fruit, *nat. size.*

3071.

T. Nicholson M.D. delt.

Pub: by S. Curtis Walworth May 1. 1831.

JANIPHA MANIHOT. EATABLE-ROOTED PHYSIC-NUT, BITTER CASSADA, MANIOC, OR TAPIOCA.

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Class and Order.

MONŒCIA DECANDRIA.

(Nat. Ord.—EUPHORBIACEÆ.)

Generic Character.

MASC. *Cal.* nullus. *Cor.* campanulata, quinquefida. *Stam.* 10, libera. *Nectarium* 10-radiatum. FŒM. *Cal.* nullus. *Cor.* 5-partita. *Stigma* amplum, carnosum, cristatum, multifidum. *Capsula* ovata, apice acutiuscula, tricocca. *Pohl,* (sub Manihot.)

Specific Character and Synonyms.

JANIPHA * *Manihot;* foliis palmatis 5—7-partitis glabris subtus glaucis, laciniis lanceolatis integerrimis, floribus racemosis.

JANIPHA Manihot. *Humb. et Kunth, Nov. Gen. v. 2. p. 85. Spreng. Syst. Veget. v. 3. p. 77.*

MANIHOT utilissima. *Pohl, Pl. Brasil. Icon. v. 1. p. 32. t. 24.*

JATROPHA Manihot. *Linn. Sp. Pl. p. 1428. Ait. Hort. Kew. ed. 2. v. 5. p. 330. Willd. Sp. Pl. v. 4. p. 562. Lunan, Hort. Jamaic. v. 1. p. 161.*

JATROPHA. *n. 5. Brown, Jam. p. 350.*

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* JANIPHA is an Indian name, applied to another species of this Genus, the JATROPHA *Janipha* of LINNÆUS. MANIHOT is equally an Indian appellation, by which the various kinds are known in Brazil. The Genus, therefore, being separated from JATROPHA, the Generic name of MANIHOT would have been more properly applied to it, as has already been done by PLUMIER, TOURNEFORT, ADANSON, and, subsequently, by POHL. JANIPHA was, however, established by KUNTH, and has been sanctioned by JUSSIEU, SPRENGEL, and the majority of Botanists.

RICINUS minor, &c. *Sloane, Jam. v.* 1. *p.* 130, *t.* 85, *et t.* 141. *f.* 1. (root) *et vol.* 2. *App. t.* 6. *f.* 1.
MANIHOT Theveti, Yucca, et Cassavi. *Bauh. Hist. v.* 2. *p.* 794.

DESCR. " This has an oblong, tuberous *root,* as big as one's fist, having some fibres drawing its nourishment, and being full of a wheyish, venomous juice. The *stalks* are white, crooked, brittle, having a very large pith, and several knobs sticking out on every side like warts, being the remains of the footstalks of the leaves, which have dropped off. The plant usually rises six to seven feet high, and has a smooth, white *bark ;* the *branches,* which come out on every side towards the top, are crooked, and have, on every side, near their tops, *leaves,* irregularly placed" (SLOANE), on long, terete *petioles,* broadly cordate in their outline, divided nearly to their base into five spreading, lanceolate, entire segments, attenuated at both extremities, dark green above, pale glaucous beneath; the *midrib* strong, prominent below, and there yellowish-red: from it there branch off several oblique veins, connected by lesser transverse ones. *Stipules* small, lanceolate, acuminate, caducous. *Panicles* or compound racemes, axillary and terminal, four to five inches long, bearing sometimes all male or all female flowers, at other times these are mixed on the same peduncle. *Pedicels* with small, subulate, bracteas at their base. *Male flower* smaller than the female. *Perianth* single, purplish on the outside, fulvous-brown within, cut about half-way down into five, spreading segments. In the centre of the flower is an orange-coloured, fleshy, ten-rayed *nectary,* and the ten *stamens* alternate with its lobes or rays. *Filaments* shorter than the perianth, white, filiform, free. *Anthers* linear-oblong, yellow. *Pollen* globular, yellow. *Female flower* of the same colour as the male, deeply five-partite, the laciniæ lanceolato-ovate, spreading. *Nectary* an annular, orange-coloured gland or ring, in which the purple, ovate, furrowed *germen* is imbedded : *Style* short : *Stigmas* three, reflexed, furrowed, and plaited, white. *Capsule* ovate, trigonous, tricoccous. *Seeds* elliptical, black, shining, with a thick, fleshy, seed-stalk.

We learn from the Hortus Kewensis, that the CASSAVA has been cultivated in the stoves of Great Britain ever since the year 1739, having been introduced from South America, where it is most extensively grown, on account of its useful and medicinal properties. Some have supposed its native country to be Africa, but POHL expressly states it to be indigenous to Brazil, where there exist many apparent varieties, differing chiefly in the breadth of the segments of their leaves, which that author has distinguished in his truly splendid "Icones et Descriptiones Plantarum Brasiliæ," as so many distinct species. Indeed, he says himself, of his dwarf "MANIHOT *pusilla,* Ego quidem meam MANIHOT *pusillam* primitivam ipsius MANIHOT *utilissimæ* plantam esse censeo."

It is stated in the Hortus Kewensis, that the JATROPHA *Manihot* blossoms in our collections in the months of July and August. But I have never been able to procure recent flowering specimens; and I have felt greatly obliged to my valued correspondent, Dr. NICHOLSON of Antigua, for an excellent drawing, here given, made from the recent plant in that island.

Two kinds are especially cultivated in the Colonies, the *Sweet Cassada* of BROWNE'S Jamaica (p. 350) and LUNAN'S Hort. Jam. (v. 1. p. 163.) MANIHOT *Aipi,* POHL; whose root is of a white colour, and free from deleterious qualities: and the *Bitter Cassada,* whose root is yellowish, and abounds in a poisonous juice. We shall confine our observations to the latter kind, which is the one here figured and described. They seem not to differ in botanical character.

When it is considered, that the MANIOC belongs to a tribe of plants, the EUPHORBIACEÆ, which is essentially distinguished by its acrid and poisonous qualities, and that the root of the plant itself abounds in a juice of this peculiar character, it cannot fail to excite astonishment in the minds of those who are not already aware of the fact, that it nevertheless yields an abundant flour, rendered innocent indeed by the art of man, and thus most extensively employed in lieu of bread, throughout a very large portion of South America: and that even to our country it is largely imported, and served up at table, under the name of *Tapioca.*

Such is the poisonous nature of the expressed juice of the MANIOC, that it has been known to occasion death in a few minutes. By means of it, the Indians destroyed many of their Spanish persecutors. M. FERNIER, a physician at Surinam, administered a moderate dose to dogs and cats, who died in a space of twenty-five minutes, passed in great torments. Their stomachs, on being opened, exhibited no symptoms of inflammation, nor affection of the viscera, nor was the blood coagulated, whence it appeared, that the poison acted on the nervous system; an idea that was confirmed, by thirty-six drops being afterwards administered to a criminal. These had scarcely reached the stomach, when the man writhed and screamed with the agonies under which he suffered, and fell into convulsions, in which he expired in six minutes. Three hours afterwards, the body was opened, but no alteration was found, except that the stomach was shrunk to less than half its natural size: so that it would appear that the fatal principle resides in a volatile substance, which may be dissipated by heat; as, indeed, is satisfactorily proved, by the mode of preparing the root for food.

By various processes, by bruising between stones, by a coarse rasp, or by a mill, the root of the Manioc is broken into small pieces, then put into a sack, and subjected to a heavy pressure, by which all the juice is expressed. What remains is *Cassava* or *Cassada,* which, if properly dried, is capable of being preserved for a great length of time.

In French Guiana, according to Aublet, *Cassava flour* is made, by toasting the grated root over the fire, in which state, if kept from humidity, it will continue good for twenty years.

Cassava-cake or Cassava-root is the *meal,* or the grated, expressed, and dried root of the Manioc, pounded in a mortar, passed through a coarse sieve, and baked on flat circular iron plates fixed in a stove. The particles of meal are united by the heat, and when thoroughly baked in this manner, form cakes, which are sold at the markets, and universally esteemed as a wholesome kind of bread. The Spaniards, when they first discovered the West Indies, found this in general use among the native Indians, who called it *Cazabbi,* and by whom it was preferred to every other kind of bread, on account of its easy digestion, the facility with which it was cultivated, and its prodigious increase."—*Long in Lunan's Hort. Jamaic.* Again, in Guiana, *Cipipa* is another preparation from this plant, and is the name given to a very fine and white fecula, which, according to Aublet, is derived from the expressed juice of the roots, which is decanted off, and suffered to rest some time, when it deposits an amylaceous substance, which requires repeated washing. I know not whether this is exactly analogous to our *Tapioca.* "The juice," says Sloane, "evaporated over the fire, gives the *Tipioca* meal." But Lunan tells us, that from the "roots of the *Sweet Cassada, Tapioca* is made in Jamaica, in every respect similar to that imported; which is done by grating them, washing and infusing them in water, and evaporating the liquor so as to obtain a sediment like starch, which must be well dried in the sun."

The root of the Manioc is also the basis of several kinds of fermented liquors; and an excellent condiment for seasoning meats, called *Cabion*, or *Capion*, is prepared from the juice, and said to sharpen the appetite. The leaves beaten and boiled are eaten after the manner of Spinach; and the fresh root is employed in healing ulcers.

From what has been above stated, it will appear, that the expression of the juice from the root deprives the latter of all its deleterious properties; and that the application of heat to these juices, renders their residue also, wholesome and nourishing. And whilst Cassava-bread is, as Sloane says, in the most general demand of any provision all over the West Indies, and is employed to victual ships; the use of *Tapioca* is still more extended, and throughout Europe is largely employed, for the same purposes as *Sago* and *Arrow-root*.

An acre of ground planted with Manioc, yields nourishment to a greater number of persons, than six acres cultivated with the best Wheat: but it is probable that it greatly exhausts the soil. The estate of Mandiocca in Brazil,the late residence of M. De Langsdorff, is so called on account of the excellency of the *Manioc*, or *Mandiocca* roots, which are cultivated on it. There, after burning the felled trees, the lands are planted with cuttings, *(manibas)* of this plant. In eighteen or twenty months, during which time the farmer endeavours above all things to check their upward growth by breaking out the buds, the roots have attained their full size. Each plantation usually yields three crops, and is then abandoned. *(Spix and Martius' Travels in Brazil.*

Fig. 1. Branch of a plant with Female Flowers. 2. Panicle, with mostly Male Flowers. 3. Pistil. 4. Stamens and Nectary. 5. Anther. 6. Seed. —3, 4, 5, *magnified.*

3072.

W. J. H. del^t

Pub by S. Curtis Walworth May 1. 1831

CHRYSOPHYLLUM CAINITO. BROAD-LEAVED STAR-APPLE.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SAPOTEÆ.)

Generic Character.

Cal. 5- seu 4-partitus. *Cor.* campanulata, 5—4-fida. *Stamina* tubo corolla inserta, laciniis opposita. *Stylus* brevis. *Stigma* subsessile, peltatum. *Bacca* 1—10-locularis, 1—10-sperma.

Specific Character and Synonyms.

CHRYSOPHYLLUM* *Cainito;* foliis ellipticis supra nitidis subtus aureo-sericeis parallelo-venosis, pedunculis sparsis axillaribus terminalibusque aggregatis unifloris.

CHRYSOPHYLLUM Cainito. *Linn. Sp. Pl. p.* 278. *Willd. Sp. Pl. v.* 1. *p.* 1083. *Jacq. Am. p.* 51. *t.* 37. *Lam. Ill. t.* 120. *Gærtn. de Fruct. v.* 3. *p.* 120. *t.* 201. *Ait. Hort. Kew. ed.* 2. *v.* 2. *p.* 12. *Spreng. Syst. Veg. v.* 1. *p.* 666.

CHRYSOPHYLLUM 1-fructu majori globoso, foliis subtus ferrugineis. *Browne, Jam. p.* 171. *t.* 14. *f.* 2.

ANONA, foliis subtus ferrugineis, &c. *Sloane, Jam. v.* 2. *p.* 170. *t.* 229.

(β.) fructu purpureo, C. jamaicense. *Jacq. Am. p.* 52.

(γ.) fructu cœruleo, C. cœruleum. *Jacq. Am. p.* 52.

DESCR. This *tree* is described in its native climate as " rising to a height of thirty or forty feet, and having a
trunk

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* From χρυσος, *gold*, and φυλλον, *a leaf*, from the color of the underside of the leaves. *Cainito* is the American name of the plant.

trunk a foot in diameter, clothed with a reddish-brown *bark*, with branches and twigs spreading on every side, and reaching almost to the ground."—*Sloane*. The young branches are clothed with silky, ferruginous, appressed hairs. The *leaves* are alternate, elliptical, four to five inches long, entire, shortly acuminated, dark green and glabrous, or with only a few scattered hairs above, beneath glossy, with abundant, closely-pressed, golden-rust-coloured hairs, (aureo-nitentia) which give a satiny appearance, "in beauty and strangeness," says SLOANE, "much beyond any leaf I ever beheld." The *nerves* are numerous, parallel, and transverse. *Petioles* short, scarcely more than half an inch long. The *flowers* arise from the axils of the leaves, or sometimes from the extremity of the young branches: they are on short, single-flowered, aggregated stalks, shorter than the petioles. *Calyx* in five, in our specimens four, deep roundish lobes, rust-coloured, and satiny. *Corolla* subcampanulate, yellowish-white, the *limb* cut into five or four roundish lobes. *Stamens* inserted at the base of the limb, and opposite the lobes of it, very small. *Filaments* short, scarcely longer than the rounded, two-lobed *anthers*. *Germen* ovate, hairy: *Style* shorter than the germen: *Stigma* obtuse. The *fruit* is a large, globose, ten-celled *Berry*, in which, however, some of the cells are usually abortive. *Seed* large, compressed, marked with an umbilical areola: its *albumen* fleshy. The *Embryo* large, erect, the *cotyledons* fleshy, with a curved *radicle*.

The *Star-apple* is a well-known fruit of the West Indies, where, however, it appears to be more esteemed by the natives than it is by Europeans; yet I am not aware that any good figure of it exists in the more recent Botanical publications. In our stoves, where it has been known since 1737, when it was introduced by PHILIP MILLER, it recommends itself by the beauty of its foliage, particularly on the underside: for its flowers not only appear but seldom, but they are small in size, and by no means of a brilliant colour. They were produced in the month of November, 1830, in the stove of the Glasgow Botanic Garden. With the view to render the figure more complete, the fruit and seeds are given, copied from GÆRTNER.

The wood is said to be serviceable for indoor work, if preserved from moisture.

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* Fig. 1. Flower. 2. The same cut open, *nat. size*. 3. Fruit cut open transversely. 4. Seed. 5. Seed cut through transversely (from GÆRTNER.), *nat. size*.

W.J.H. del.

Pub. by S. Curtis Walworth May 1. 1831

ARGEMONE GRANDIFLORA. LARGE-FLOWERED MEXICAN POPPY.

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Class and Order.

POLYANDRIA MONOGYNIA.

(Nat. Ord.—PAPAVERACEÆ.)

Generic Character.

Pet. 4—6. *Stamina* plurima. *Stylus* vix ullus: *Stigmata* 4—7, radiantia, concava, libera. *Capsula* obovata, 1-locularis, valvulis apice dehiscens, placentis linearibus. *Semina* sphærica, scrobiculata.—Flores *flavi aut albi.* Pedunculi *ante anthesin erecti. D C.*

Specific Character and Synonyms.

ARGEMONE* *grandiflora;* foliis pinnatifidis sinuatis parce spinoso-dentatis, caule calyceque lævibus, capsula oblonga tetragona nudiuscula.
ARGEMONE grandiflora. *Sweet, Br. Fl. Gard. t.* 226. *Bot. Reg. t.* 1264. *Lodd. Bot. Cab. t.* 242.

DESCR. A hardy perennial, throwing up a much branched, rounded *stem,* three to four feet high, which, upwards especially, is of a pale yellowish-green colour, with a reddish tinge arising from numerous fine streaks of that colour, unarmed as well as the *peduncles. Leaves* numerous, mostly large, plane, or slightly waved, green, whitish in the centre, pinnatifid, sinuated and beset with soft and remote spinous teeth, the base amplexicaul, the upper ones small and scarcely pinnatifid. *Flowers* large, in panicles. *Calyx* caducous, of three concave, glabrous leaves, each lengthened into a soft horn. *Petals* six, nearly orbicular, pure white, and extremely delicate. *Stamens* numerous, spreading, and lying over each other with great regularity, orange-yellow. *Pistil* obtusely four-angled, linear-oblong. *Stigma* nearly sessile, rich purple, downy, with four impressed, bright blue spots. *Capsule* (scarcely mature) oblong, with a few soft, spinous hairs, one-celled, with four parietal *receptacles*, to which many *seeds* are attached.

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* Derived from *argema,* the *cataract of the eye,* and which again is thus named from αργος, *silver.* The Greeks so called a plant, perhaps this, which they considered beneficial in the cure of that complaint.

Introduced by Mr. BARCLAY among many other rarities from Mexico; and now, by that gentleman's well-known liberality, it has become a not uncommon inmate of our gardens, producing freely its fine white blossoms with their orange stamens and brilliant stigma, through the whole summer months. Its stem and peduncles are quite smooth, and the fruit has only a few soft spinous teeth, possessing none of those "sharpe and venomous prickles," described by old GERARDE as characteristic of the A. *mexicana*, of such a nature, "that whosoever had one of them in his throte, doubtless it would send him either to heaven or to hell *."

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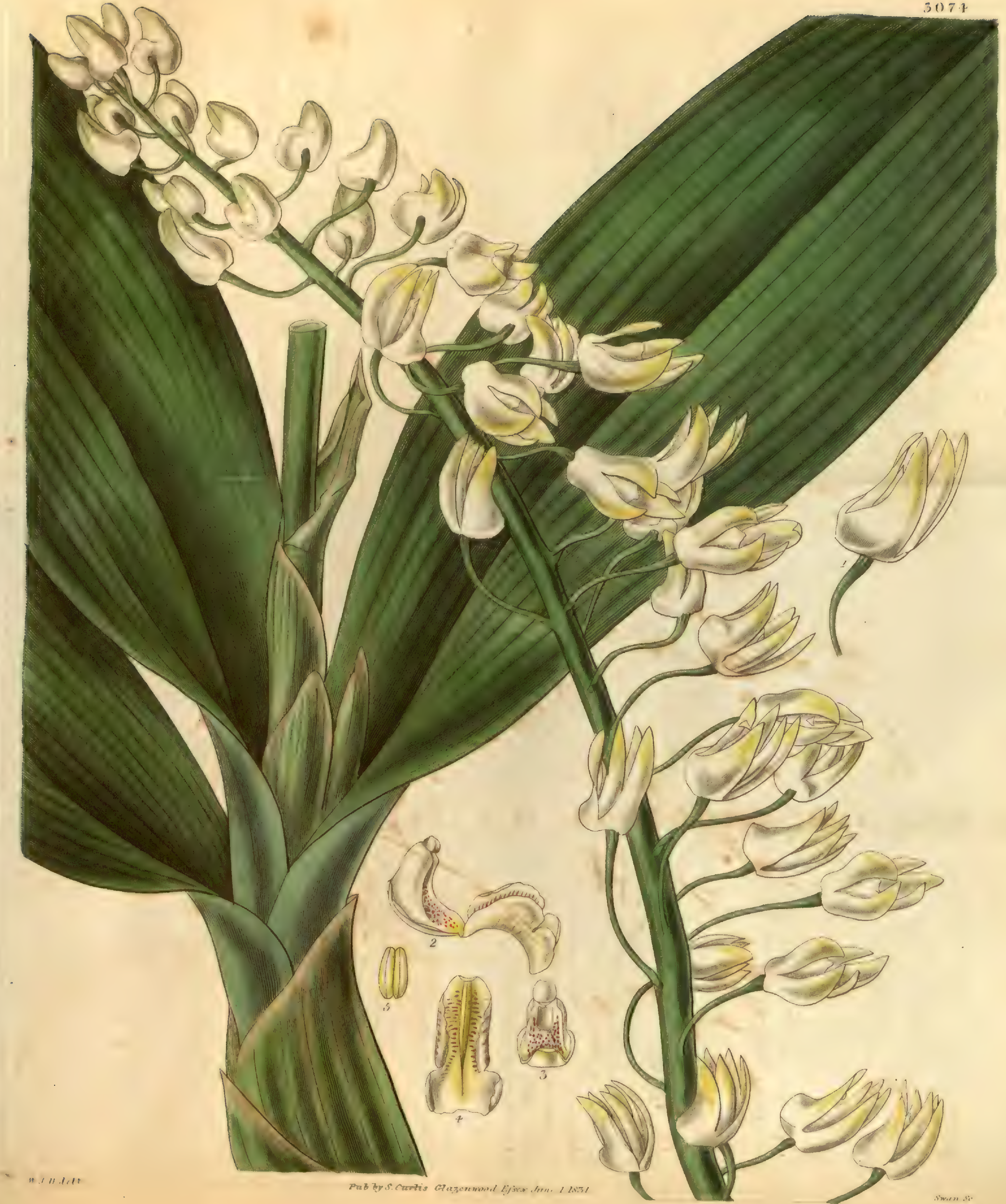
* See the account of ARGEMONE *mexicana* in t. 243 of the Old Series of this Work.

Fig. 1. Stamen. 2. Section of an unripe Capsule.

3074



W. J. H. del.

Pub by S. Curtis Glazenwood Eſsex Jun. 1 1831

Swan Sc.

DENDROBIUM SPECIOSUM. GREAT DENDROBIUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum ecalcaratum, articulatum cum apice processus unguiformis, cujus lateribus petala antica adnata, calcar æmulantia. *Massæ pollinis* 4, parallelæ. *Br.*

Specific Character and Synonyms.

DENDROBIUM *speciosum;* caulibus erectis apice 2—3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis angusto-oblongis, labello infra divisuram carina unica, lobo intermedio latiore quam longo ecarinato. *Br.*

DENDROBIUM speciosum. *Sm. Ex. Bot. p.* 17. *t.* 10. *Br. Prodr. Fl. Nov. Holl. p.* 332. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 212. *Spreng. Syst. Veget. v.* 3. *p.* 738.

DESCR. *Stem* a foot or more high, somewhat swollen, bulbiform, striated, jointed, sheathed with pale membranaceous scales, terminated by three large, coriaceous, oval-oblong, obtuse *leaves,* dark green above, paler beneath, obscurely striated, eight to nine inches long. From the centre of these, and from the extremity of the stem, arises the pedunculated *raceme,* a foot and a half long: its *peduncle* sheathed with large *scales* or *bracteæ. Flowers* resupinate, numerous, of an uniform, pale yellow colour, (except the lip,) deeper towards the extremity, generally secund when most expanded, though the buds point in various directions, scentless. *Petals* narrow-oblong, nearly equal, except that the two upper ones which cover the lip are somewhat falcate, and are swollen at the base where they receive the base of the lip, all of them erect, never spreading*. *Lip* almost white, within spotted with purple, oblong, erect, the sides incurved, and a little waved, three-lobed, the middle or terminal lobe the largest, broad and retuse. *Column* short, white, plane in front, and then spotted with purple below the *stigma*. *Anther* white, hemisphærical, attached to the back of the top of the column. *Pollen-Masses* yellow.

DENDROBIUM *speciosum* is a New Holland plant, that has been long cultivated in our stoves; but which, as far as I am aware, has rarely produced blossoms. In the present season, (Jan. 1831,) a noble flowering specimen was communicated to me, from the Liverpool Botanic Garden, by the Messrs. SHEPHERDS. The plant was named by Sir JAMES E. SMITH, in his Exotic Botany, where a figure likewise is given, but so unlike our present one, that the two plants scarcely appear to be the same. Yet I believe they are identical, and that the difference arises from the artist of Sir JAMES E. SMITH's figure (which was done in New Holland,) not being skilled in Botanical drawing. The flowers are greatly larger than in our plant, the gibbous or spur-like base, essential to the Genus DENDROBIUM, is omitted, and the petals are widely patent. The plant from which our figure is taken was sent by Mr. FRASER to the Liverpool Garden. A drawing has likewise been obligingly communicated to me, by W. T. AITON, Esq., from the Royal Gardens at Kew.

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* In a fine specimen forwarded to me from the Edinburgh Botanic Garden, since the plate was engraved, one of the blossoms was considerably more expanded than is here represented.

Fig. 1. Flower, slightly *magnified*. 2. Column or Lip, the latter forced back to show more of the former. 3. Front view of the Column. 4. Interior view of the Lip. 5. Pollen-Masses.—All more or less *magnified*.

3075.

W.J.H del.
Pub by S. Curtis Glazenwood Eſsex June 1.1831.
[illegible]

LOBELIA HYPOCRATERIFORMIS. SALVER-SHAPED LOBELIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—LOBELIACEÆ.)

Generic Character.

Cor. tubo hinc fisso (raro integro); *limbo* 5-partito. *Antheræ* connatæ. *Stigma* bilobum, (nunc indivisum.) *Capsula* bilocularis, (raro 3-locularis,) apice supero bivalvi. *Br.*

DIV. Isotoma. *Br. Cor. hypocrateriformis, tubo integro, limbo parum inæquali. Antheræ imberbes (2 inferiores mucronatæ.) Flores racemosi.*

Specific Character and Synonyms.

LOBELIA *hypocrateriformis;* annua glabra, caule subsimplici, foliis linearibus integerrimis. *Br.*

LOBELIA hypocrateriformis. *Br. Prod. v.* 1. *p.* 565. *Spr. Syst. Veg. v.* 1. *p.* 719.

DESCR. A slender, scarcely branched, annual plant. *Stems* erect, glabrous, as is every part, wavy, rounded. *Leaves* scattered, remote, linear-filiform, from half to three quarters of an inch long, spreading, or often recurved, obtuse, entire, pale green, gradually becoming smaller upwards, and passing into bracteæ. *Raceme* terminal, few-flowered. *Pedicels* slender, wavy, much longer than the linear bracteæ. *Calyx* superior, of five linear-subulate, closely-placed teeth. *Corolla* truly hypocrateriform; the *tube* slender, twice or thrice as long as the calyx, entire, almost white: the *limb* five-partite, somewhat two-lipped, the *segments* broadly obovato-cuneate, submucronate, purple, with a small red spot at the base, the two upper ones rather the smallest, approximate, as are the three lower, of which the middle segment is the largest of all. *Filaments* white. *Anthers* oblong, bluish-purple. *Germen* obovate, furrowed, glabrous : *Style* a little exceeding the *stamens* : *Stigma* two-lobed.

This interesting little plant is a native of the Southern shores of New Holland, where it was discovered by Mr. Brown, and described by that learned author as the type of the division of Lobelia which he calls Isotoma. Seeds were sent to the Glasgow Botanic Garden, by Mr. C. Fraser, and the plants blossomed in the greenhouse during the month of September, 1830.

We possess native specimens, gathered at King George's Sound, which are larger than the plant here figured.

Fig. 1. Flower. 2. Anthers and Stigma :—*magnified.*

3076.

Pub by S. Curtis Glazenwood Eſsex. June 1.1831.

BROUGHTONIA SANGUINEA. CRIMSON-FLOWERED BROUGHTONIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Columna libera, v. basi tantum connata labello unguiculato (nunc inferne producto in tubulum ovario adnatum). *Massæ Pollinis* 4 parallelæ, septis completis persistentibus distinctæ, basi filo granulato elastico auctæ. *Br.*

Specific Character and Synonyms.

BROUGHTONIA* *sanguinea;* foliis geminis oblongis bulbo innatis, scapo diviso. *Br.*
BROUGHTONIA sanguinea. *Br. in Hort. Kew. ed. 2. v. 5. p.* 217. *Spreng. Syst. Veget. v. 3. p.* 734.
DENDROBIUM sanguineum. *Swartz, Fl. Ind. Oct. v. 4. p.* 1529. *Willd. Sp. Pl. v. 4. p.* 132.
EPIDENDRUM sanguineum. *Swartz, Prodr. p.* 124.
VISCUM radice bulbosa minus, &c. *Sloane, Jam. v.* 1. *p.* 250. *t.* 121. *f.* 2.
SATYRIUM parasiticum; foliis paucioribus, &c. *Browne, Jam. p. 324.*

DESCR. *Bulbs* roundish or ovate, dark green, the younger ones depressed, slightly compressed, smooth, sheathed with a brownish, membranous coat, bearing one or (as would appear to be the correct number) two *leaves* from the

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* Named by Mr. BROWN, in compliment to Mr. ARTHUR BROUGHTON, an English Botanist.

summit, which are said by Swartz to be adnate with the bulb, four to five inches long, coriaceous, rigid, obtuse or emarginate at the point, channelled in the middle on the upper side, somewhat keeled below, nerveless. From the base of the leaves, within, rises a rounded, unbranched, purplish-green *scape*, a foot or more high, jointed at intervals, and having a small, appressed scale at each joint. *Raceme* terminal, lax, few- (seven to eight) flowered. *Pedicels* curved upwards, scarcely two inches long, (including the adnate spur,) bright red, each with a small bractea at the base. *Perianth* (except at the base of the labellum) of a fine rich crimson, inner segments a little paler, and more delicate in structure. The three outer segments are lanceolato-acuminate, carinated; the two inner and lateral ones obovato-cuneate, somewhat waved, veiny; *Labellum* scarcely longer than the rest of the segments, broadly obovate, waved and somewhat crenate at the margin, very veiny, and with deep red lines upon an orange-coloured ground at the scarcely unguiculated base, where it is decurrent, running down into a long *spur*, which is adnate with the slender *germen*. *Column* rather short, semicylindrical. *Stigma* transverse, very viscid. *Anther* white, hemisphærical, with four parallel cells, and four oval, compressed, white *pollen-masses*, each with a filament, which lies upon the edge of the mass.

Browne, in his Natural History of Jamaica, says that this is "one of the most beautiful species of this tribe of plants;" and it is certain that there are few that can excel it in richness of colour. It grows in its native island not far from the shore upon the old trunks of Bombax, Rhizophora, Conocarpus, &c., along with the Cymbidium *nodosum*. *(Swartz.)* It was introduced to Kew, in 1793, but is, probably, yet rare in collections. A specimen has been obligingly communicated to me by Charles Horsfall, Esq. of Everton, near Liverpool, raised from bulbs sent by Mr. Wiles, from Jamaica; and accompanied by an excellent drawing from the pencil of Mrs. Horsfall.

Fig. 1. Column and part of the Perianth. 2. Inner view of an Anther-case. 3. and 4. Pollen-Masses:—more or less *magnified*.

3077.

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W. J. H. del.
Swan Sc.

(3077)

ORNITHOGALUM FIMBRIATUM. HAIRY-LEAVED STAR OF BETHLEHEM.

Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—ASPHODELEÆ.)

Generic Character.

Perianthium inferum, petaloideum, hexaphyllum. *Stam.* alterna majora, seu basi dilatata. *Capsula* 3-loba, lobis sulcatis, 3-locularis, polysperma. *Semina* biserialia.

Specific Character and Synonyms.

ORNITHOGALUM[*] *fimbriatum;* foliis linearibus patentibus canaliculatis extus scapoque perbrevi hirsutis, racemo subcorymboso, pedunculis elongatis patentibus fructiferis deflexis.

ORNITHOGALUM fimbriatum. "*Willd. in Nov. Act. Nat. Cur. Berol.* 3. *p.* 26." *Bieb. Fl. Taur. Cauc. v.* 1. *p.* 276. *Bot. Reg. t.* 555. *Spreng. Syst. Veget. v.* 2. *p.* 50.

ORNITHOGALO umbellato affine, foliis pilosis. "*Pall. in Nov. Act. Petrop.* 10. 309."

ORNITHOGALUM samium villosum umbellatum album. *Tourn. Cor. p.* 26. *(Bieb.)*

DESCR. *Bulb* ovate, whitish. *Leaves* all radical, spreading, six to eight inches long, linear, channelled above and glabrous, semicylindrical beneath and very hairy, the apex obtuse. *Scape* exceedingly short, hairy, bearing a short but broad *raceme* of *flowers*. *Peduncles* at first erect, short,

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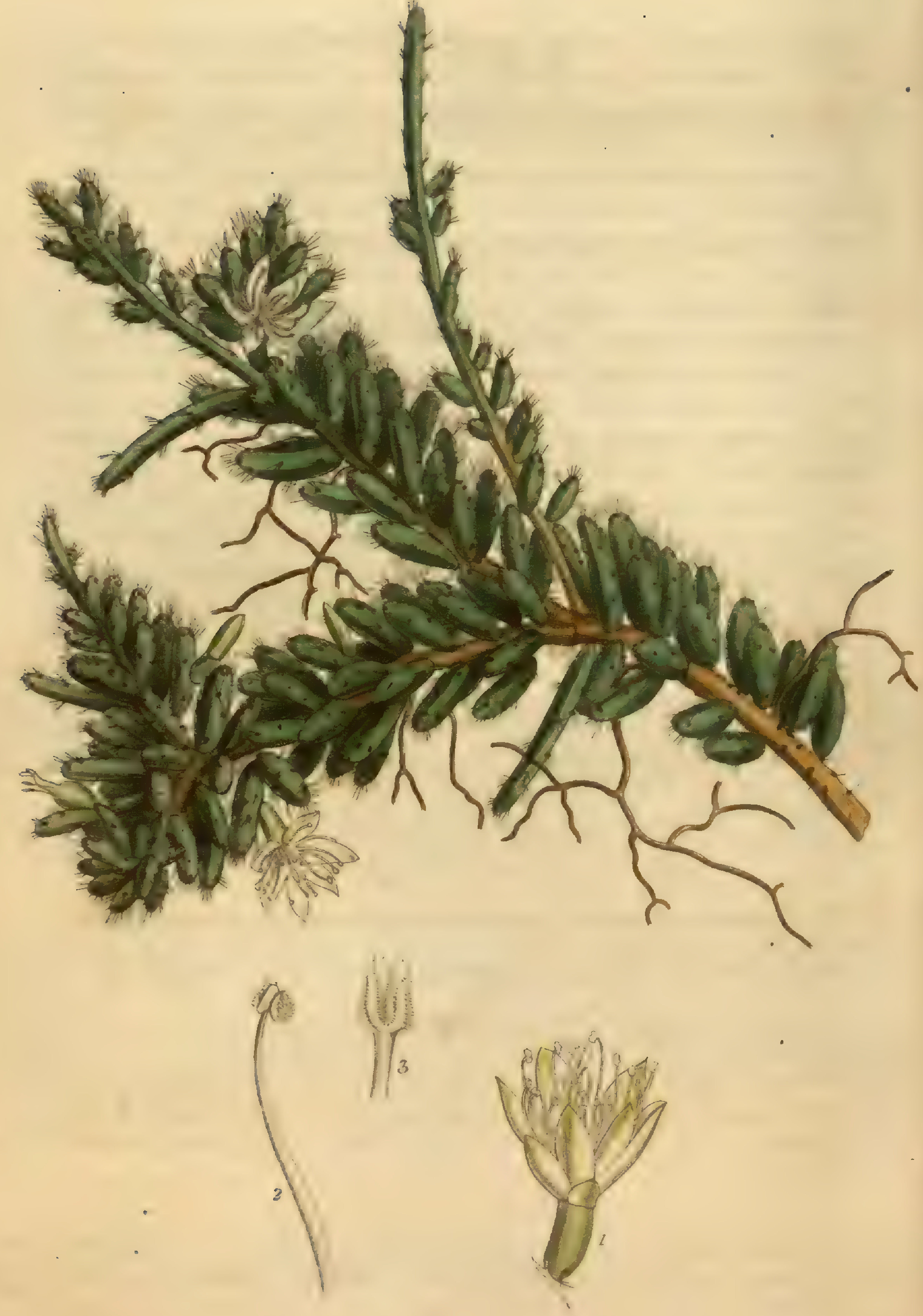
[*] From ορνις, ορνιθος, *a bird,* and γαλα, *milk:* but why so named is very doubtful.

then lengthened and becoming patent when the flower expands; somewhat more elongated and deflexed in fruit. *Bracteæ* at first equal in length with the peduncle, then longer, membranaceous, whitish, sheathing. *Perianth* of six spreading, ovato-acuminate leaves, white, green in the centre: the three inner ones smaller and less green on the back. *Stamens* opposite the segments of the perianth. *Filaments* white, subulate, very broad at the base, and nearly equal in size and shape. *Anthers* oblong, yellow. *Germen* obovate, deeply three-lobed, each lobe furrowed in the centre, so that there are three deep alternating with three shallow furrows; three-celled, cells with many *seeds* arranged in two vertical rows in the inner angle. *Style* short, straight. *Stigma* small, triquetrous. *Fruit* (immature) of the same form and structure as the germen.

MARSHALL BIEBERSTEIN and Mr. KER are surely not correct in considering this as so closely allied to O. *umbellatum* that they can scarcely point out any distinction, except the hairiness of the leaves. The inflorescence seems to me very different, the raceme being almost radical, the peduncles much more spreading, and becoming deflexed as the fruit approaches to maturity.

It is a native of the Crimea, and was introduced by the Horticultural Society of London, in 1821. In the greenhouse of our Botanic Garden it flowers in March, and continues in blossom during many successive days.

Fig. 1. Stamens. 2. Pistil. 3. Section of the Germen.—*Magnified.*



J.D. Sowerby del.

Pub by S. Curtis Glazenwood Essex. June 1. 1831.

Swan sc.

(3078)

RHIPSALIS MESEMBRYANTHEMOIDES. FIG-MARIGOLD-LIKE RHIPSALIS.

* * *

Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Cal. tubus ovario adhærens, lævis ; limbus superus 3—6-partitus brevis, dentibus acuminatis membranaceis. *Pet.* 6, oblonga, patula, calyci inserta. *Stam.* 12—18, petalis affixa. *Stylus* filiformis. *Stigmata* 3—6, patula. *Bacca* pellucida, subrotunda, calyce marcescente coronata. *Semina* intra pulpam nidulantia, exalbuminosa, radicula embryonis crassa, *cotyled.* 2 brevibus obtusis.—Frutices *pseudo-parasitici super arbores Ins. Caribæarum orti, sæpius penduli aphylli ramosi teretes nudi aut setas minimas subfalcatas gerentes, fasciculis tunc ordine spirali quincunciali dispositis.* Flores *laterales sessiles parvi albi.* Baccæ *(fere* Visci) *albæ pellucidæ.* D C.

Specific Character and Synonyms.

RHIPSALIS [*] *mesembryanthemoides;* glomerato-ramosa, ramis erectis teretibus strictis articuliferis, articulis lateralibus confertis teretibus utrinque attenuatis nebulosis medio floriferis, fasciculis setarum capillacearum albis pallidis demum mortuisve nigris, floribus solitariis. *D C.*

RHIPSALIS mesembryanthemoides. *Haw. Revis. p.* 71. *De Cand. Prodr. v.* 4. *p.* 476.

RHIPSALIS salicornoides, β. *Haw. in Suppl. Pl. Succ. p.* 83.

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[*] From ῥιψ, *a willow-branch,* in allusion to the long flexible stems and branches.

Descr. *Plant* easily cultivated in earth, but evidently a parasite, like its congeners. *Stems* woody, covered, as well as the *branches,* (which send out roots from different points,) with greyish bark, rough with the scars of fallen *leaves* and with scattered black spines. *Branches* woody, clustered, densely covered with fleshy, oblong, nearly cylindrical joints (leaves?), which are sprinkled with minute dots, and with fascicles of slender black spines. *Flowers* solitary, from the middle of a joint, large, white, inferior in size only to those of R. *grandiflora.* *Fruit* a white *Berry,* smaller than that of R. *Cassytha.* *Christy MSS.*

A native, as are most of the Cactus family, of South America, and first described by A. H. Haworth, Esq., who has for many years paid the most devoted attention to the study of succulent plants. That gentleman, however, had not seen the blossoms, which were produced in the stove of our valued friend, W. Christy, Esq. Clapham Road, London, in the month of March, 1831.

For the drawing of this and the two following species, we are indebted to the accurate pencil of Mr. J. D. Sowerby.

Fig. 1. Flower. 2. Stamen. 3. Pistil.—*Magnified.*

I.D.Sowerby del.t Pub. by S.Curtis Glazenwood Eſsex June 1.1831.

RHIPSALIS FASCICULATA. CLUSTER-BRANCHED RHIPSALIS.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Cal. tubus ovario adhærens, lævis; limbus superus 3—6-partitus brevis, dentibus acuminatis membranaceis. *Pet.* 6, oblonga, patula, calyci inserta. *Stam.* 12—18, petalis affixa. *Stylus* filiformis. *Stigmata* 3—6, patula. *Bacca* pellucida, subrotunda, calyce marcescente coronata. *Semina* intra pulpam nidulantia, exalbuminosa, radicula embryonis crassa, *cotyled.* 2 brevibus obtusis.—Frutices *pseudo-parasitici super arbores Ins. Caribæarum orti, sæpius penduli aphylli ramosi teretes nudi aut setas minimas subfalcatas gerentes, fasciculis tunc ordine spirali quincunciali dispositis.* Flores *laterales sessiles parvi albi.* Baccæ *(fere* Visci) *albæ pellucidæ. D C.*

Specific Character and Synonyms.

RHIPSALIS *fasciculata;* pendula, ramis teretibus fasciculatis, pilis cum fasciculis ordine quincunciali spiraliter servatis secus ramos juniores. *De Cand. Prodr. v.* 3. *p.* 476.
RHIPSALIS fasciculata. *Haw. Suppl. Pl. Succul. p.* 83.
RHIPSALIS parasitica. *Haw. Syn. Pl. Succ. p.* 187.
CACTUS fasciculatus. *Willd. Enum. Suppl. p.* 33.
CACTUS parasiticus. *Lam. Dict. v.* 1. *p.* 541. *De Cand. Pl. Gras. t.* 59.

DESCR. *Plant* parasitical; but growing well in a pot of soil. *Branches* springing many together in a dense cluster,

and more abundantly from near the root, cylindrical, pendulous, rather thicker than a goose-quill, with many dots or scars, especially on the younger branches, and these dots are placed beneath a slight protuberance: they each bear a fascicle of fine hair-like spines. When the branches are young these spines are white, and very soft: but in a more advanced state, they are very conspicuous, and of a deep black colour. On the older branches, however, they are less perceptible. The extremities of the branches are also furnished with a tuft of similar spines. *Flowers* rarely produced, and few on a plant, confined to the main branches, greenish-white. *Petals* about six. *Stigmas* two-lobed, the lobes spreading, hairy. *Fruit* a *Berry*, similar to that of R. *Cassytha*. *Christy MSS.*

Mr. CHRISTY, to whom I am indebted for the opportunity of figuring the present species of RHIPSALIS, observes, that he received the plant from Mr. HOOD along with the following, and that he believes it to be a native of Brazil. It flowered in March, 1831, for the first time, and, may probably, another season, bear more copious blossoms.

The fruit-bearing plant is represented by M. DE CANDOLLE, in the " Plantes Grasses" above quoted.

Fig. 1. Flower. 2. Stamens. 3. Part of the Style with its two-lobed Stigma:—*magnified.*

3080

J. D. Sowerby delt.

Pub. by S. Curtis Glazenwood Eſsex. June 1. 1831.

Swan

RHIPSALIS CASSYTHA. NAKED RHIPSALIS.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Cal. tubus ovario adhærens, lævis ; limbus superus 3—6-partitus brevis, dentibus acuminatis membranaceis. *Pet.* 6, oblonga, patula, calyci inserta. *Stam.* 12—18, petalis affixa. *Stylus* filiformis. *Stigmata* 3—6, patula. *Bacca* pellucida, subrotunda, calyce marcescente coronata. *Semina* intra pulpam nidulantia, exalbuminosa, radicula embryonis crassa, *cotyled.* 2 brevibus obtusis.—Frutices *pseudo-parasitici super arbores Ins. Caribæarum orti, sæpius penduli aphylli ramosi teretes nudi aut setas minimas subfalcatas gerentes, fasciculis tunc ordine spirali quincunciali dispositis.* Flores *laterales sessiles parvi albi.* Baccæ *(fere* Visci) *albæ pellucidæ.* *D C.*

Specific Character and Synonyms.

RHIPSALIS *Cassytha ;* pendula, ramis verticillatis nudis glabris, calyce 4—6-partito, petalis 4—6.

RHIPSALIS Cassytha. *Gærtn. Fr. v.* 2. *p.* 136. *t.* 28. *Haw. Syn. Succ. Pl. p.* 186. *Hook. Ex. Fl. t.* 2. *(var. Hookeriana. D C.) De Cand. Rev. des Cact. t.* 21. *(var. Mociniana.) Prodr. v.* 3. *p.* 476.

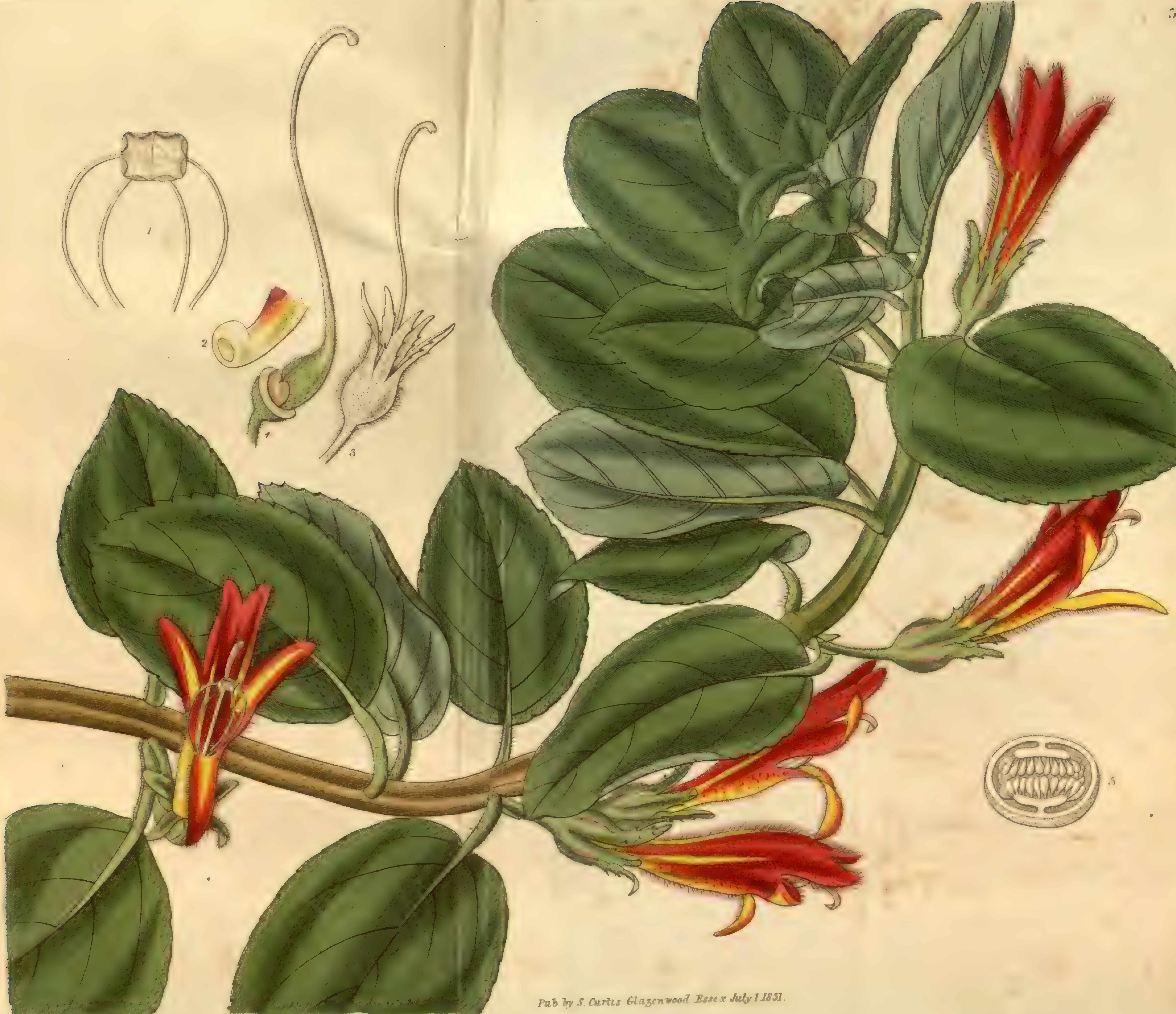
CACTUS pendulus. *Sw. Fl. Ind. Occ. p.* 876. *Willd. Sp. Pl. v.* 2. *p.* 942. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 178. *Spreng. Syst. Veg. v.* 2. *p.* 496.

CACTUS parasiticus, &c. *Browne's Jam. p.* 238.

DESCR. A parasite, but flourishing in a pot of common soil in the stove. *Stem* more woody than in R. *grandiflora,* covered with a greyish bark. *Branches* smooth, green, cylindrical, obtuse at their extremities, the older ones almost truncated. Smaller branches mostly alternate, sometimes opposite, the extremities of the main branches generally terminating in a sort of whorl of from three to six smaller ones. The *branches* are studded with irregularly placed dots or scars, whence the flowers, and, occasionally, young shoots are produced. Each of these scars is furnished with a very minute and hardly perceptible spinule, in other respects the branches are entirely naked. *Flowers* sessile, greenish-white, most abundant on the alternate ramules. *Petals* five. *Stamens* numerous. *Stigmas* generally three-, sometimes four-cleft. *Fruit* a semi-transparent, white, pulpy *Berry*. *Seeds* numerous, black, apparently in three cells. *Christy MSS.*

This is an old inhabitant of our stoves, readily cultivated, flowering freely in February and March, and, as Mr. CHRISTY observes, (from whose collection our figure was made,) when covered with ripe fruit in April, it bears a considerable resemblance to a plant of *Misseltoe*. The number of divisions to the calyx, the number of petals and lobes to the stigma are evidently variable.

Fig. 1. Portion of a Flower, the Petals being removed. 2. Flower. 3. Stigma.—*Magnified.*



W. J. H. del.

Pub by S. Curtis Glazenwood Essex July 1.1831.

Swan Sc.

COLUMNEA HIRSUTA. HAIRY COLUMNEA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—GESNERIACEÆ.)

Generic Character.

Cal. profunde 5-fidus. *Cor.* tubulosa, curvata, limbo bilabiato, labio superiore fornicato, inferiore 3-fido, laciniis divaricatis. *Antheræ* connexæ. *Capsula* subbaccata, unilocularis, polysperma, receptaculis 2 parietalibus.

Specific Character and Synonyms.

COLUMNEA* *hirsuta*; foliis ovatis acutiusculis crenato-serratis superne hirtis, laciniis calycinis denticulatis lanceolatis corollisque hirsutis.

COLUMNEA hirsuta. *Swartz, Fl. Ind. Occ. v. 2. p.* 1080. *Willd. Sp. Pl. v. 3. p.* 396. *Ait. Hort. Kew. ed.* 2. *v. 4. p.* 68. *Spreng. Syst. Veget. v. 2. p.* 342.

ACHIMENES major, &c. *Browne, Jam. p.* 270. *t.* 30. *f.* 3.

RAPUNCULUS fruticosus, &c. *Sloane, Jam. v.* 1. *p.* 58. *p.* 100. *f.* 1.

DESCR. *Stem* suffrutescent and climbing, according to SWARTZ, branched, branches thick, obtusely quadrangular, pubescenti-scabrous, the extremities soft and herbaceous. *Leaves* opposite, each pair generally unequal in size, three to four inches long, borne on rather short, thick footstalks, fleshy, ovate, rather acute, with a strong midrib and several lateral veins, the margins crenato-serrate, the upper side dark green and hairy, the lower pale green, with fewer

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* Named in compliment to FABIUS COLUMNA, an Italian Botanist of the sixteenth century.

hairs, and those mostly confined to the midrib and nerve, and appressed. *Flowers* from the axils of the superior leaves, large, handsome, solitary or two together. *Peduncles* nearly an inch long, red, they are mostly declined, so that the flowers appear under the stem and leaves. *Calyx* altogether inferior, very hairy, often streaked with about five red lines, the *tube* subglobose, the laciniæ linear-lanceolate, laciniated or toothed at the margin, three outer and two inner, these almost close over the mouth of the tube when the corolla is removed. *Corolla* three inches long, tubular, curved, the mouth oblique ; gibbous at the base above, bright red, streaked with yellow, and yellow on the underside, velvety with numerous hairs, two-lipped, the lip (in this species being much the largest,) trifid, the two lateral segments entire, linear, recurved, the middle one large, convex, bifid ; the lower lip of one reflexed, linear piece. *Stamens* four, didynamous ; the stamens curved inwards, so as to bring the anthers close, when they combine and form apparently one piece. *Germen* superior, ovate, silky, with a thick, bifid, fleshy gland at the base above. *Style* curved, filiform, white, pubescent, glandular upward, nearly as long as the corolla : *Stigma* deflexed, with a small, transverse furrow. The fruit I have not seen : but the more advanced germens scarcely indicate that it will be a *berry* : they are one-celled, with two opposite, parietal receptacles, covered with numerous obovate *ovules*, each upon a short stalk.

This COLUMNEA has been very coarsely figured by SLOANE, and a representation of the flower is given by BROWNE in his History of Jamaica. But, although introduced into our stoves by the Marquis of Rockingham upwards of fifty years ago, according to the Hortus Kewensis, it has not yet appeared in any of our modern Botanical periodical publications. I was, then, much gratified at receiving in March of the present year, a fine flowering specimen from Messrs. SHEPHERDS of Liverpool. The plant was sent from Jamaica by Mr. WILES, where, according to SWARTZ, it inhabits rocks, and grows about the roots of trees, in shady mountain woods.

Fig. 1. Anthers and upper portion of the Filaments. 2. Base of the Corolla. 3. Calyx including the Pistil. 4. Pistil. 5. Section of the Germen :—more or less *magnified*.

3082.

W. J. H. delt.   Pub by S. Curtis Glazenwood Essex July 1. 1831.   Sw

(3082)

DROSERA BINATA. FORKED-LEAVED SUN-DEW.

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Class and Order.

PENTANDRIA PENTAGYNIA.

(Nat. Ord.—DROSERACEÆ.)

Generic Character.

Sepala petalaque 5, inappendiculata. *Stam.* 5. *Styli* 3—5, bipartiti.—Herbæ *in uliginosis sphagnosis crescentes.* Folia *ciliis glandulosis rubidis irritabilibus ornata.*

Specific Character and Synonyms.

DROSERA* *binata;* acaulis, foliis longe petiolatis profunde bipartitis lobis linearibus, stylis capillaceo-multifidis.

DROSERA binata. *Labill. Nov. Holl. v.* 1. *t.* 105. *p.* 78. *De Cand. Syst. Veget. v.* 1. *p.* 319. *Spreng. Syst. Veget. v.* 1. *p.* 956.

DESCR. *Root* perennial, of a few stout, descending, branched fibres. *Leaves* all of them radical, five to six inches or more long (including the petiole) deeply bipartite, with two spreading, linear-acuminate lobes, fringed at the margin, and clothed on the upper surface with copious hairs, tipped with red, viscid glands. *Petioles* very long, terete, glabrous. *Scape* longer than the leaves, terete, reddish at the base, glabrous, bearing a few-flowered *corymb.* *Pedicels* glabrous. *Calyx* four- to five-partite. *Petals* four or five, large, obovate, waved, yellowish at the base. *Stamens* four or five. *Filaments* subulate. *Anthers* cordate, deep orange. *Pistil: Germen* subglobose, four-

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* From δροςος, *dew,* the glands of the leaves distilling a viscid, pellucid fluid, resembling dew.

to five-lobed. *Styles* four to five, divided into numerous capillary segments and obtuse *stigmas*.

A native of Van Diemen's Isle, according to Labillardiere: but in 1823, it sprung up among some earth imported from New Holland to the Royal Gardens at Kew, whence a drawing, taken from the specimen that flowered there, was kindly communicated by W. T. Aiton, Esq.

There can be no question, but that the other Droseræ of New South Wales, and the still more showy ones of the Cape of Good Hope, may be safely introduced to our gardens, if the seeds be kept in moist earth during the voyage: and they would prove a most valuable acquisition to our collections.

Fig. 1. Petal. 2. Stamen. 3. Stamens and Pistil. 4. Style and Stigmas: *magnified.*

3083.

W. J. H. del^t. Pub by S Curtis Glazenwood Essex July 1.1831. Swan Sc.

FRITILLARIA LEUCANTHA. WHITE-FLOWERED FRITILLARY.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—TULIPACEÆ.)

Generic Character.

Cor. 6-petala, basi nectarifera. *Semina* compressa marginata. *Spr.*

Specific Character and Synonyms.

FRITILLARIA * *leucantha ;* caule paucifloro, floribus axillaribus terminalibusque solitariis, foliis infimis oppositis ovatis apice attenuatis obtusiusculis multinerviis, superioribus verticillatis lineari-lanceolatis carinatis apice cirrhosis.

FRITILLARIA leucantha. *Graham MSS.*
IMPERIALIS leucantha. *Fischer MSS.*

DESCR. *Bulb* round, lobed, covered with a thick brown coat, which separates in large fragments, splitting all along the furrows between the lobes. *Stem* simple. *Leaves* (three to four inches long) bright green, or slightly glaucous, somewhat crowded about the middle of the stem, the lowest pair opposite, many-nerved, without a conspicuous middle rib, ovate, tapering towards the apex, which is rather blunt; the others more or less perfectly whorled, linear-lanceolate, few- (three to five-) nerved, nearly flat in front, and with a strong middle-rib behind, extended at the apex into a simple cirrhus. *Flowers* solitary, axillary or terminal, nodding, white, at the base externally green, and within at the base, sprinkled with small purplish spots. *Petals* tipped with a green, callous, slightly pubescent apex, the three outer ones ovate, the three inner ones obovate and broader, all gibbous on the outside near the base, and there, on the inside, each having a round, green, conspicuous pit, containing honey. *Stamens* included; *filaments* straight, white, collected together in the centre of the flower; *Anthers* yellow, linear, erect, very loosely attached. *Pistil* longer than the stamens; *stigma* trifid, slightly diverging; *style* straight, somewhat clavate, three-sided, twice the length of the anthers, colourless; *Germen* green, with six prominent, brownish, somewhat waved, longitudinal angles. *Ovules* numerous, in two rows within the three cells of the capsule, ovate, flattened, attached by their apices to the central receptacle.

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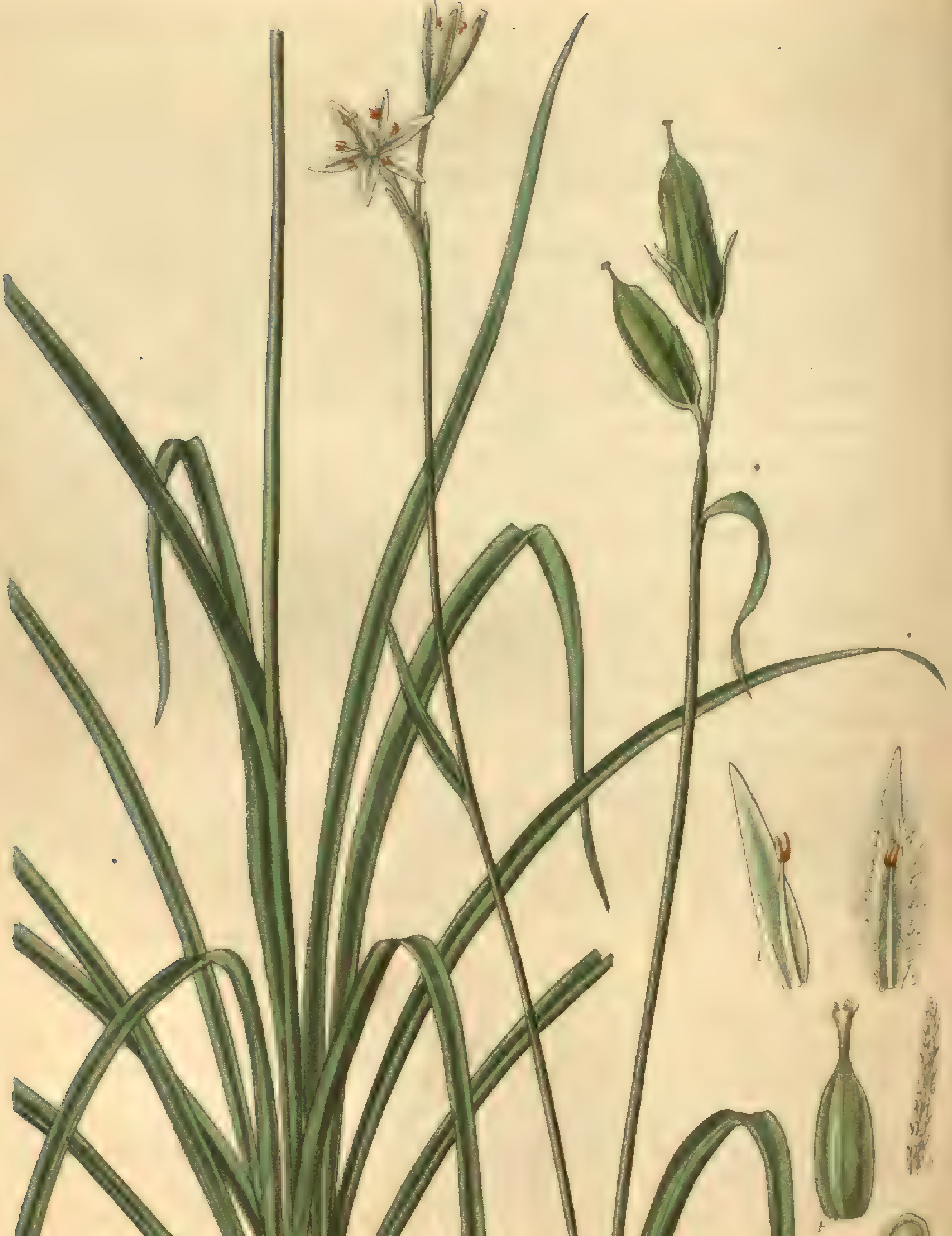
* From *fritillus, a dice-box,* but which most authors, according to Sir J. E. SMITH, consider to mean a *chess-board,* to which the tessellated flowers bear a resemblance.

This species, which I conceive should follow F. *pyrenaica* in the arrangement of the Genus, is a native of the Altaic Mountains, and was obligingly communicated in September, 1830, from the Botanic Garden of Edinburgh, where it flowered in the open border in the beginning of May.

Fig. 1. Petal. 2. Stamen. 3. Pistil. 4. Section of the Germen.—*Magnified.*

3084.



W.J.H. del.

Pub by S. Curtis Glazenwood Essex July 1.1831

ANTHERICUM ? PLUMOSUM. BEARDED-FLOWERED ANTHERICUM.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—ASPHODELEÆ. *Br.*)

Generic Character.

Perianthium sexpartitum, patens, æquale, deciduum. *Stam.* 6. *Filamenta* (omnia vel interiora) barbata. *Antheræ* versatiles. *Ovarium* loculis polyspermis. *Stylus* filiformis. *Stigma* subpapulosum. *Capsula* subglobosa, 3-loc., 3-valv., valvis medio septiferis. *Semina* pauca, angulata, umbilico nudo. *Br.*

Specific Character and Synonyms.

ANTHERICUM ? *plumosum ;* scapo- bi- 4-floro subfolioso, petalis interioribus barbatis, capsulis elongatis trigonis, stylo brevi.

ANTHERICUM plumosum. *Ruiz et Pav. v.* 3. *t.* 300. *f. b. Sch. Syst. Veget. v.* 7. *p.* 481.

DESCR. *Root,* according to RUIZ and PAVON, composed of oblong, fasciculated *tubers,* attenuated at their base, and bearing fibres. *Leaves* mostly radical, from four to six or ten inches long, linear-subulate, channelled, striated, glaucous-green, quite glabrous, those of the stem or scape remote, gradually shorter upwards. *Scape* mostly simple, short and naked, or bearing only one leaf, in our specimens a foot and more high, bearing three or four leaves or bracteæ, and sometimes forked. *Flowers,* generally two at the extremity of the scape or branch, with a *bractea* at their base, pedicellated. *Perianth* small, cut into six deep, linear-oblong, patent divisions, each white at its margin;

the three outer ones naked, the three inner beautifully fringed with numerous white, succulent hairs, which, when seen under a microscope, are, each of them, studded with pellucid raised points, directed forwards. *Stamens* six, inserted at the base of the segments of the perianth, shorter than them. *Filaments* white, subulate, glabrous. *Anthers* oblong, of a deep orange-colour. *Pistil : Germen* oblong, with three angles and three furrows. *Style* short, columnar. *Stigma* of three, spreading, dilated rays. *Capsule* (immature) almost an inch long, surrounded at the base with the withered, persistent segments of the perianth. *Cells* three; each cell containing many roundish *seeds*, arranged in one series, in the inner angle of the cell. The ripened fruit I have not seen.

Seeds of this were brought from Chili, by our valued friend Mr. CRUCKSHANKS, and together with many others from that country and Peru, liberally given to the Botanic Garden of Glasgow. The plants raised from them were reared in the greenhouse, and produced flowers and nearly ripe capsules in April, 1831. The figure of RUIZ and PAVON represents a smaller plant than our's, with a simple and scarcely leafy scape, bearing larger flowers. Still, I believe the two plants are identical. How far it may be right to retain this in the Genus ANTHERICUM I scarcely feel competent to decide. It differs from that Genus in its quite glabrous stamens, in its oblong capsule, short style, three-rayed stigma, and in the inner petals being beautifully fringed, in this particular approaching the Genus THYSANOTUS of Mr. BROWN, but departing from it in the short, straight style, and in the elongated, many-seeded fruit.

Fig. 1. Outer segment of the Perianth. 2. Inner do. 3. Portion of the Hair of the Fringe. 4. Pistil. 5. Unripe Fruit, cut through transversely to show the Seeds.—*Magnified.*

NOTE.—We here take the opportunity of remarking, that the GLADIOLUS *psittacinus*, published at Tab. 3032 of this work, should bear the name of G. *natalensis*, (it being a native of the shores of the Natal River, Cape of Good Hope,) given to it by Professor REINWARDT, of Leyden; who introduced it to Europe, and who, we know, has distributed this splendid plant with great liberality.

Pub by S Curtis Glazenwood Essex July 1.1831

(3085)

PTEROSTYLIS NUTANS. NODDING-FLOWERED PTEROSTYLIS.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium ringens, tetraphyllum, foliolo inferiore bifido (e duobus infra cohærentibus conflato). *Labellum* unguiculatum, subinclusum. *Lamina* basi appendiculata v. gibbosa. *Ungue* infra labio inferiore connato. *Columna* basi galea connata, apice alata. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulvereæ. *Stigma* medio columnæ adnatum. *Br.*

Specific Character and Synonyms.

PTEROSTYLIS* *nutans*; foliis radicalibus stellatis, flore nutante, labiis longitudine subæqualibus, galea acuminata, labello apice attenuato truncato.

PTEROSTYLIS nutans. *Br. Prodr. Fl. Nov. Holl. v.* 1. *p.* 327. *Spreng. Syst. Veget. v.* 3. *p.* 715.

DESCR. *Leaves* radical, spreading in a stellated manner, oval, rather acute, membranous, striated, reticulated, tapering into a short *petiole*. *Scape* erect, scarcely a span high, erect, glabrous, with about two foliaceous, sheathing *bracteas*, and terminated by a solitary, nodding *flower*: the three upper *segments* of the *flower* are approximate so as to

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* Derived from πτερον, *a wing*, and στυλος, *a style*, in allusion to the winged style or column.

form a helmet, very convex, gibbous at the base, acuminated at the extremity, greenish-white, striated. *Lower segment* (of two combined segments) small in proportion to the rest of the flower, green, with two lanceolato-subulate laciniæ. *Labellum* linear-attenuated, downy, rather thickened and obtuse at the extremity. *Column* green, with two broad, white wings towards the extremity. *Germen* clavate, furrowed.

Introduced to the Royal Gardens at Kew from New Holland, in the year 1826. The drawing was made from an excellent flowering specimen, in September, 1828, and obligingly communicated by Mr. Aiton.

In the direction of the flower, and in the shape of the labellum, this species is altogether different from the P. *curta,* figured in our next plate.

Fig. 1. Back view of a Flower, *nat. size.* 2. Labellum, with its penicellated appendage. 3. Front view of the Column :—all but fig. 1. *magnified.*

3086.

W. J. H. del.
Pub by S. Curtis Glazenwood Essex July 1.1831.
Swan sc.

PTEROSTYLIS CURTA. SHORT-LIPPED PTEROSTYLIS.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium ringens, tetraphyllum, foliolo inferiore bifido, (e duobus infra cohærentibus conflato.) *Labellum* unguiculatum, subinclusum. *Lamina* basi appendiculata v. gibbosa. *Ungue* infra labio inferiore connato. *Columna* basi galea connata, apice alata. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulvereæ. *Stigma* medio columnæ adnatum. *Br.*

Specific Character and Synonyms.

PTEROSTYLIS *curta;* foliis radicalibus stellatis, bracteis scapi præter floralem 2—3, flore erectiusculo, labio inferiore breviore, galea acutiuscula, labelli lamina integra. *Br.*

PTEROSTYLIS curta. *Br. Prodr. Fl. Nov. Holl. v. 1. p.* 326. *Spreng. Syst. Veget. v. 3. p.* 715.

DESCR. *Root* descending, somewhat filiform, flexuose, bearing a few fibres, and, at the extremity, two rounded *bulbs*, about the size of peas. *Stem* a span or more high, erect, bearing two to three small bracteiform, sheathing *leaves*. The greater number of the leaves, however, are radical, oval, striated and reticulated, tapering below into a petiole. *Flower* terminal, solitary, erect, large, the three upper segments of the *perianth* are oblong, standing so close as appearing to form but one piece, arched at the top, whitish, streaked with green, the extremity brown. Two lower segments combined for half their length, so as to form one erect, green piece, about equal in length to the rest of the flower, and having two acuminated and rather spreading segments. *Labellum* lanceolate, erect, reddish-green, having at its base a penicellate appendage pointing downwards. *Column* erect, greenish, with two broad, white wings occupying the upper half, and standing forward, projecting into a blunt lobe at the base, and at the extremity into a subulate lobe. *Anther* sessile, inserted between the two upper lobes of the wings, two-celled, each cell bearing two flattened pulverulent *pollen-masses*.

The curious and beautiful New Holland Genus PTEROSTYLIS is known to Botanists by Mr. BROWN's excellent character, and by the splendid designs and analysis of one species (P. *grandiflora,*) executed by Mr. BAUER: but no where, perhaps, has any species been cultivated, except at the Royal Gardens at Kew, whence Mr. AITON has most kindly communicated drawings of three species which had flowered in that rich collection. The present individual was marked P. *grandiflora*: but it differs from Mr. BROWN's plant so named, in the presence of large radical leaves, in the different shape of its labellum, and, especially, in the much shorter segments of the lower lip of the flower. To me it appears to agree better with the character of P. *curta,* as well as with a specimen in my possession of that plant, for which I am indebted to Mr. BROWN. In our plant, however, the lower lip is nearly, if not quite, equal in length with the *galea,* while in Mr. BROWN's P. *curta* it is shorter.

The specimen here figured was sent by Mr. ALLAN CUNNINGHAM, and flowered at Kew in October, 1829. The species was discovered by Mr. BROWN in the neighbourhood of Port Jackson.

Fig. 1. Front view of a Flower. 2. Labellum. 3. Column. 4. Anther. 5. Pollen-Masses.—*Magnified.*

3087.

W.J.H. Delᵗ.   Pub by S. Curtis Glazenwood Essex July 1 1831   Swan sc.

FARSETIA LUNARIOIDES. LUNARIA-LIKE FARSETIA.

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Class and Order.

TETRADYNAMIA SILICULOSA.

(Nat. Ord.—CRUCIFERÆ.)

Generic Character.

Silicula sessilis, ovalis aut orbiculata, valvis planis. *Semina* alata. *Calyx* basi bisaccatus. *Petala* integra.

Specific Character and Synonyms.

FARSETIA* *lunarioides;* caulibus suffruticosis adscendentibus, foliis spathulatis petiolatis siliculisque tomentosis incanis. *Br.*

FARSETIA lunarioides. *Br. in Hort. Kew. ed.* 2. *v.* 4. *p.* 96. *De Cand. Prodr. v.* 1. *p.* 157. *Spreng. Syst. Veget. v.* 2. *p.* 870.

ALYSSUM lunarioides. *Willd. Sp. Pl. v.* 3. *p.* 461.

LUNARIA græca. " *Willd. Enum. v.* 2. *p.* 675."

LUNARIA fruticosa, perennis, incana, Leucoii folio. *Tournef. It. ed. Angl. v.* 1. *p.* 189. *cum Ic.*

DESCR. *Stems* nearly a foot high, perennial, and throwing out many shoots from near the base where the plant is suffruticose and purplish : the rest herbaceous, pubescenti-hirsute. *Leaves* numerous at the base and spathulate, those of the stem oblong-obtuse, waved, and somewhat sinuate, hoary with stellated down on both sides. *Flowers* in dense *corymbs,* moderately large, extending gradually as the fruit ripens into a lax *raceme.* *Pedicels* two to three lines long, downy, without bracteas. *Calyx* of four erect, elliptical, concave *leaves*, pale green, hirsute, scarcely saccate at the base. *Petals* bright yellow, oblongo-obovate, retuse, with a *claw* nearly equal in length with the border, which latter is patent and even recurved. *Stamens: Filaments* subulate, the shorter ones with an obtuse tooth in the inside near the middle: *Anthers* oblong, greenish. *Pistil: Germen* oblongo-cylindrical, densely clothed with white hairs: *Style* a quarter of the length of the germen: *Stigma* capitate, papillose, yellow. *Pouch* elliptical, compressed, hoary. *Septum* complete. *Cells* two- to four-seeded. *Seeds* large, flat, with a broad, membranous ring. *Cotyledons* accumbent.

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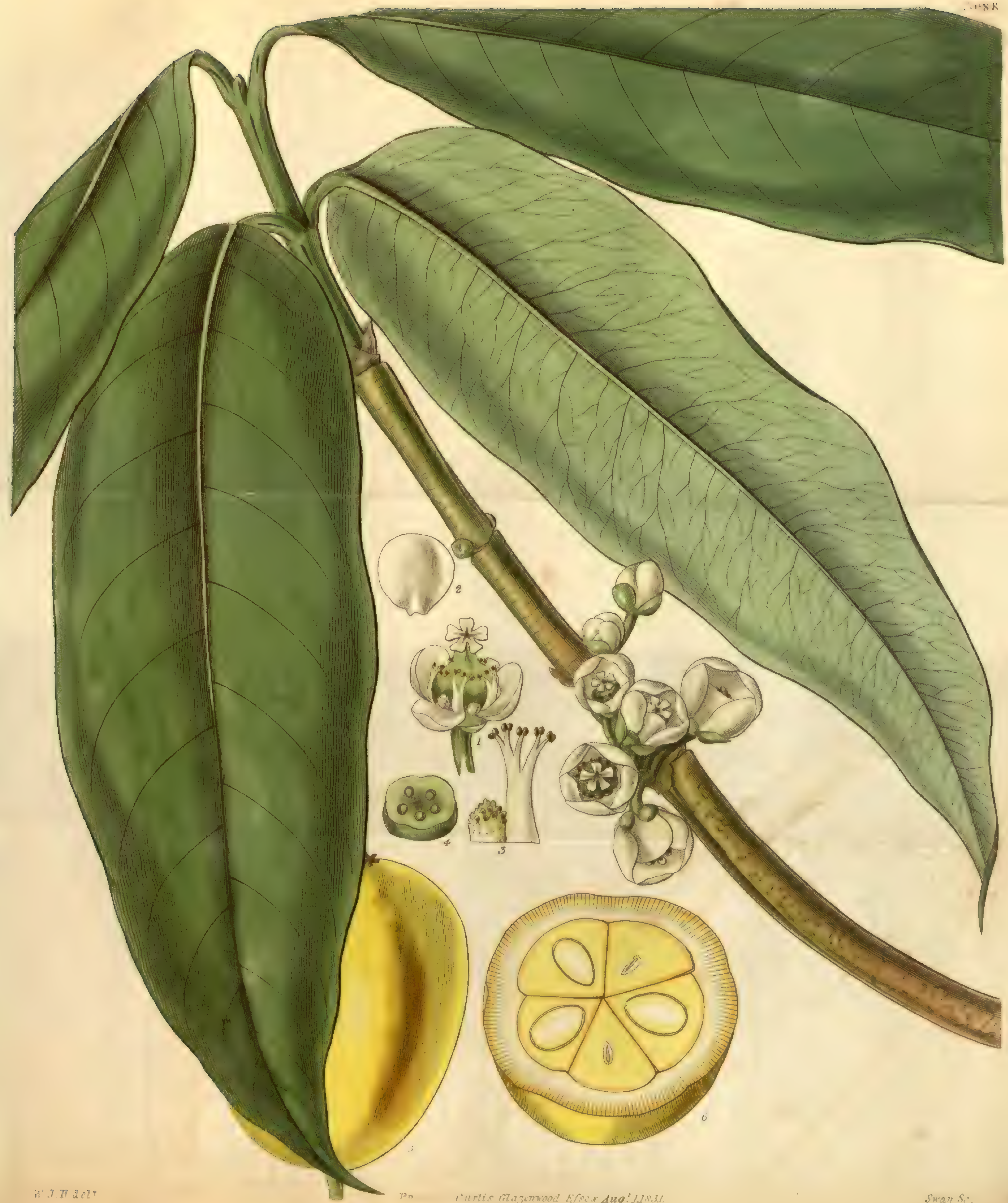
* Named in compliment to PHILIP FARSETI, a Venetian Botanist.

This plant is a native of the Greek Archipelago, and was introduced to our gardens, where (in England at least) it is treated as a hardy perennial, by Mr. PH. MILLER, in 1731. The specimen here figured is from the Glasgow Botanic Garden, where, sheltered by a frame in winter it produces its bright coloured blossoms in March and April, and those again are succeeded by the numerous and large seed-vessels.

TOURNEFORT has figured this plant in his Voyage to the Levant, and his account of its discovery is admirably descriptive of his own botanical enthusiasm. "The 22d of September," he says, "as we passed close by Caloyero, an ugly rock twelve miles from Amorgos, the master of our vessel would needs climb one of its sharp points to take some young falcons out of the nest. We did not dare to follow him. This man not only knew how to run up the shrouds, but would scale the steepest rocks with surprising agility. We desired him to bring us all the plants he could light on, assuring him we would willingly resign to him our share of the falcons. He accordingly brought us some plants, which we could have preferred to all the Birds of Paradise in Arabia. The description of one of these beautiful plants take as follows. LUNARIA *fruticosa*, &c." *Voy. ed. Angl. v.* 1. *p.* 188.

Fig. 1. Root-leaf: *nat. size.* 2. Flower. 3. Stamens and Pistil. 4. One of the shorter Stamens. 6. Silicula *(nat. size.)* 7. Seed. 8. Embryo:—all but fig. 1 and 6 *magnified.*



W. J. H. del. Pu Curtis Glazenwood Eſsex Aug.t 1.1831. Swan Sc.

(3088)

Xanthochymus dulcis. Sweet-fruited Xanthochymus.

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Class and Order.

Polyadelphia Polyandria.

(Nat. Ord.—Guttiferæ.)

Generic Character.

Cal. 5-partitus inæqualis imbricatus. *Cor.* 5-petala ovato-rotunda. *Nectaria* 5 petalis opposita. *Stam.* 15—20 altissime 5-delpha petalis alterna; *Antheræ* oblongæ. *Stylus* brevissimus. *Stigma* 5-lobum, longum, patulum. *Bacca* maxima pericarpio luteo coriaceo. *Sem.* 3—4.—Arbor *foliis lineari-lanceolatis acutis oppositis integris petiolatis; flores fasciculati laterales pedunculati. D C.*

Specific Character and Synonyms.

Xanthochymus * *dulcis;* polygama, foliis oblongis, floribus lateralibus fasciculatis, corollis globosis, fructibus ovalibus obtusis. *Roxb.*

Xanthochymus dulcis. *Roxb. Pl. of Corom. v. 3. p. 66. t. 270.*

Descr. A small *tree* with a straight *trunk* and opposite, glabrous *branches;* green and cylindrical in the young shoots. *Leaves* opposite, six inches and more in length, oblong, more or less acuminated, coriaceous, entire, glabrous, bright green, glossy, dark above and penninerved, beneath paler, and veiny. *Petiole* short, thick. *Flowers* in fascicles, from the joints of a former year's shoot, and where the leaves have fallen away. *Peduncles* scarcely longer than the flowers. *Calyx* of three or four, rather small, unequal, rounded, and somewhat imbricating leaves. *Corolla* of five *petals*, erect and very concave, so as to connive in a globular form, cream-coloured, almost white. *Bundles of stamens* five, erect, each of five *filaments*, free at the extremity, and each terminated by a two-celled, rounded, mostly abortive, *anther*. Alternating with the five bundles of stamens, are five rounded, and somewhat tubercled *glands*. *Pistil: Germen* globose, tapering upwards into a short *style*, terminated by a large *stigma* of five spreading, obtuse, stellated rays. The *fruit* is, according to Dr. ROXBURGH, a rounded or oval *berry*, of the size of an apple, smooth and bright yellow, with copious yellow pulp, five-celled, and five-seeded, or fewer by abortion. These *seeds* are large, oblong, acute, with a distinct broad yellow hilum. *Integument* reticulated. A large portion of the pulp, of a more agreeable taste than the rest of the fruit, is attached to the seed. *Albumen* hard, fleshy.

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* From ξανθος, *yellow,* and χυμος, *juice,* from the colour of the juice of the fruit.

In the month of February, of the present year, (1831,) Mr. MARNOCK was so obliging as to send to me, from Mrs. BEAUMONT's noble collection at Bretton Hall, the specimen here figured of the XANTHOCHYMUS *dulcis*. "Our plant," he says, "is now about ten feet high, and is loaded with not less than two hundred flowers and young fruit, which latter have every prospect of coming to perfection." The seeds had been transmitted to Mrs. BEAUMONT by Dr. WALLICH, from the Calcutta Botanic Garden, where it was introduced by Dr. ROXBURGH, from the Molucca Islands, as a supposed species of Mangosteen. The fruit appears to be palatable and good.

Dr. ROXBURGH's plants, at the Calcutta Garden, at eight years old, were not larger than the one which flowered at Bretton Hall.

Fig. 1. Flower. 2. Petal, *nat. size*. 3. Stamens and Gland. 4. Section of Pistil, *magnified*. 5. Fruit; and 6. Section of do. *nat. size* (copied from Dr. ROXBURGH's Plate).

3088

Pub. by S. Curtis, Glazenwood Essex Augt 1. 1831

W.J.H. delt

Swan Sc

OLEA UNDULATA. WAVY-LEAVED FRAGRANT CAPE OLIVE.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—OLEINEÆ.)

Generic Character.

Cal. 4-dentatus. *Cor.* 4-fida (raro nulla). *Stylus* 2-fidus. *Drupa* baccata, putamine osseo, 1-sperma. *Spreng.*

Specific Character and Synonyms.

OLEA [*] *undulata;* foliis oblongis utrinque acuminatis undulatis subtus pallidioribus, paniculis terminalibus repetitim trichotomis, ramis verrucosis.
OLEA undulata. *Jacq. Hort. Schoenbr. v.* 1. *p.* 1. *t.* 2. *Spreng. Syst. Veget. v.* 1. *p.* 34. *Lodd. Bot. Cab. t.* 379.
OLEA laurifolia. *Lam. Ill. v.* 1. *p.* 29.
OLEA capensis. (β.) *Ait. in Hort. Kew. ed.* 2. *v.* 1. *p.* 21. *Roem. et Sch. Syst. Veget. v.* 1. *p.* 70.

DESCR. With us, cultivated in the greenhouse, this rises with a tree-like *stem,* to the height of eight or nine feet, with many spreading *branches,* which are rough, with scattered warts; the young shoots green, and all of them glabrous. *Leaves* opposite, petiolate, three or four inches long, coriaceous, oblong, attenuated at each extremity, wavy, dark green above, paler beneath, quite glabrous. *Petioles* from half to three-fourths of an inch long, rounded, flattish above. *Panicles* terminal, somewhat thyrsoid, repeatedly divided in a trichotomous manner, with the branches four-sided, glabrous, very pale green. *Pedicels* with minute bracteæ at their base. *Flowers* numerous, white, very fragrant, small. *Calyx* minute, yellowish-white, four-toothed. *Corolla* rotate, deeply four-lobed, the lobes spreading or recurved. *Stamens* two, inserted opposite to each other in the sinus of the lobes. *Anthers* deep orange. *Pistil* pale green ; *Germen* globose. *Style* shorter than the stamens. *Stigma* globose.

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[*] The Σλαια, of the Greeks, from λειος, *smooth,* in allusion to the nature of the oil.

This is a native of the Cape of Good Hope, where it appears to form a tree, yielding a wood so hard, that the Dutch colonists, according to Mr. BURCHELL, call it *Yzer-hout,* (or Iron-wood,) which they esteem for making the poles of their waggons as but little inferior to the Hassagay-wood (CURTISIA *faginea*). It is a very desirable green-house plant; for after it has attained a certain age, it blossoms freely in the early spring, the flowers continue for a long period, and are exceedingly fragrant.

Some Botanists are of opinion, that this is only a variety of OLEA *capensis,* (figured in the Bot. Register, t. 613.); but the leaves are less rigid, longer, and vastly more acuminated at both extremities, and the flowers are smaller.

Fig. 1. Flowers.—*Magnified.*

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Pub. by S. Curtis Glazenwood Essex Aug. 1. 1831
Swan

MELOCACTUS COMMUNIS. GREATER TURK'S CAP MELON-THISTLE.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Calycis tubus ovario adherens, lobi 5—6-petaloidei fructum juniorem coronantes. *Petala* totidem cum petalis in tubum cylindraceum longe concreta. *Stam.* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 5-radiatum. *Bacca* lævis calycis et corollæ lobis marcescentibus coronata. *Semina* nidulantia. *Cotyledones* minimæ. *Plumula* subglobosa maxima.—Suffrutices *carnosi reg. caudice aphyllo simplici rotundato, sulcis profundis et costis verticalibus alternantibus.* Costæ *tuberculis confluentibus in apice fasciculi aculeorum insignitæ.* Spadix *seu* Cephalium *terminale cylindraceum tuberculis mammæformibus confertissimis tomentosis et setiferis constans, flores in tomento subimmersos sub apice gerens.* D C.

Specific Character and Synonyms.

MELOCACTUS * *communis;* ovatus seu subrotundus atrovirens 12—20-angulatus, costis rectis, spinis fasciculatis fuscis subæqualibus.

(α.) subrotundus. *Link et Otto, Diss. de Cact.* 1827. *t.* 11. *De Cand. Diss. de Cact.* 6. *Prodr. v.* 3. *p.* 460.

CACTUS melocactus. *Linn. Sp. Pl. p.* 666. *De Cand. Pl. Grass. t.* 112. *Willd. Sp. Pl. v.* 2. *p.* 938. *Haw. Syn. Pl. Succ. p.* 173. *Dict. des Sc. Nat., cum Ic. Spreng. Syst. Veget. v.* 2. *p.* 494.

(β.) ovatus. *(Tab. nostr.* 3090.*)*

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* From *Melo,* a Melon, and *Cactus;* signifying Melon-shaped Cactus.

Descr. This curious plant forms a succulent mass, twelve or fifteen inches high, and ten inches in diameter; in the generality of our specimens, of a dark and rather lurid green colour, ovate in form, cut into from twelve to twenty deep furrows, and as many rather acute angles, which are armed with a regular series of stellated spines, about five in number (exclusive of lesser aculei or bristles); and of these five, the three lower ones are the largest. They scarcely exceed three lines in length, and are of a dusky brown colour. On the summit of this large, ovate, leafless *stem*, is a cylindrical *crown*, not half the breadth of the stem, and from three to five inches in height, composed externally of innumerable reddish-brown, compact, rigid, acicular bristles; and within, of a mass of a pale, whitish, cotton-like substance. The upper half exhibits some transverse lines, which appear to indicate a periodical growth. In the summit of these, the flowers are produced, and half imbedded. They are small, red, fleshy, cylindrical, or a little swollen below; above, divided into a number of spreading and subreflexed narrow *segments:* the *calyx* and *corolla* being combined into one *perianth. Anthers* numerous, sessile, inserted upon the throat of the perianth. *Germen* inferior, oval. *Style* reaching to the mouth of the perianth, and there dividing into six or seven filiform *styles. Fruit*, a small oval, red *berry*, containing numerous small, black, shining *seeds.*

The noble Cactus here figured differs from Melocactus of authors in its truly ovate, not rounded and somewhat depressed, form; and it may perhaps be deemed worthy to constitute a distinct species. It has many times been imported from the island of St. Kitt's, to the Glasgow Botanic Gardens by Capt. Mac Arthur. It grows in very dry and barren places, often on bare porous rocks, into which its tortuose roots penetrate, if they do not derive nutriment from it. Its increase in size is very slow. The inhabitants of St. Kitt's have observed plants for a long period of years to make no apparent progress, and tradition estimates the age of some of them at from two to three hundred years. When the head is by any accident broken off, a cluster of new Cactuses springs up from the wound, and by removing and planting these, the plant may be increased. Care must be taken that the pots be well drained, for this species is very impatient of moisture.

De Candolle mentions a var. "oblongus" of Link and Otto, but that is described as being only six inches high, and three and a half broad; whereas our's reaches a gigantic size, and is always elongated. From Jamaica, we have lately received a Melocactus, with a comparatively small, rounded, and depressed stem, which is probably the M. *communis, α*, of De Cand. and the "Turk's Caps" of Sloane, and which in the Windward Islands, we are told in the Dictionnaire des Sciences Nat. have received the name of "*Englishmen's Heads.*"

A. Melocactus *communis*, reduced to one-third of its *nat. size.* Fig. 1. Flower. 2. The same, laid open to show the Style and Stamens.—*Magnified.*

3091

W.J.H. del.t

Pub. by S. Curtis, Glazenwood Essex Aug.t 1, 1831.

Swan

(3091)

APHANOCHILUS BLANDUS. MILD APHANOCHILUS.

Class and Order.

DIDYNAMIA GYMNOSPERMIA.

(Nat. Ord.—LABIATÆ.)

Generic Character.

Cal. subæqualis, 5-dentatus. *Cor.* tubo calycem æquante, breviter 4-fida, lobo superiori suberecto subconcavo emarginato, inferioribus patentibus. *Stam.* 4, sæpius exserta, distantia. *Antherarum* loculi divergentes vel divaricati, demum confluentes. *Benth.*

Specific Character and Synonyms.

APHANOCHILUS* *blandus;* canescens, foliis oblongis utrinque attenuatis, verticillastris secundis laxè spicatis, spicis paniculatis. *Benth.*

APHANOCHILUS blandus. *Benth. in Wall. Pl. Asiat. Rar.* 1. *p.* 29.

MENTHA blanda. *Wall. MSS. ann.* 1821. *non D C.*

PERILLA elata. *Don, Prod. Fl. Nepal. p.* 115.

DESCR. Whole plant hoary, with short, very soft and transparent hairs, and yielding a slightly aromatic smell, especially the spike, on account of the great abundance of glands on the calyces, corollas, and bractes. *Stem* two to three feet high, erect as well as the branches, quadrangular, furrowed on each face, and slightly thickened at each division. *Leaves* about three inches long, narrowed and acuminate at the apex, the margins furnished with broad serratures, intermixed with others smaller, entire, and narrowed at the base into a petiole about half an inch long, nearly glabrous on the upper surface, hoary and dotted underneath, with prominent and hairy midrib and nerves; the upper leaves smaller, narrower, and more entire, often bearing only one or two deep indentures, the floral leaves perfectly entire. *Spikes* slender, three to six inches long, semicylindrical. *Fascicles* of flowers approximate, secund, containing each about twenty minute, blue flowers. *Bracteas* subulate. *Calyx* nearly cylindrical, pubescent, with five linear teeth. *Corolla* twice as long as the calyx, pubescent, with resinous dots inside. *Upper lobe* emarginate, lateral ones slightly reflexed, lower one concave. *Stamens* distant, scarcely projecting beyond the mouth of the corolla. *Wall. MSS.*

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* From *α, not, φαινω, to appear,* and *χειλος, a lip,* from the imperfectly formed lips of the corolla.

This plant was first introduced by Dr. Wallich into the Botanic Garden of Calcutta in the year 1819, from seeds sent from Nepal under the name of Nutchoo by the Hon. Edward Gardner. From thence Dr. Wallich sent seeds to the Royal Gardens at Kew, which produced the specimen here figured. A species closely allied to this, but differing in its shorter and broader leaves, cylindrical spikes, and strong smell, has been also sent to this country by Dr. Wallich, and described in the Transactions of the Horticultural Society, and figured by Professor De Candolle (Pl. Rar. Hort. Genev. p. 23. t. 8.) under the same name of Mentha *blanda*. As far as can be ascertained from the figure itself, it appears to have been taken from the A. *fœtens* (Benth. in l. c.) or Mentha *fœtens* (Wall. MSS.). *G. B.*

Fig. 1. Flowers. 2. Single Flower :—More or less *magnified*.

W. J. H. del.

Pub by S. Curtis Glazenwood Essex Aug 1 1831

ARRACACIA ESCULENTA. EATABLE ARRACACHA.

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Class and Order.

PENTANDRIA DIGYNIA.

(Nat. Ord.—UMBELLIFERÆ.)

Generic Character.

ARACACIA. *Bancr. Calycis* margo obsoletus. *Pet.* lanceolata aut ovata integra, acumine inflexo supra nervum medium frenatum. *Styli* erectiusculi (" demum divergentes ") basi dilatati. *Fructus* oblongus a latere compressus. *Mericarpia* jugis 5-æqualibus lævibus, lateralibus marginantibus. *Vittæ* nullæ.—Involucrum o *aut* 1-*phyllum.* Involucella *subunilateralia* 2—8 *setacea.* Flores *polygami, radii hermaphroditi, disci masculi aut imperfecti.*

Specific Character and Synonyms.

ARRACACIA* *esculenta;* foliis pinnatis, pinnis pinnatifidis incisis serratis lobis acuminatis, fructus jugis obtusis.
ARRACACIA esculenta. *De Cand. Prodr. v.* 4. *p.* 244.
ARRACACIA xanthorhiza. *Bancroft in Trans. of Agr. & Hort. Soc. Jam.*
CONIUM Arracacha. *Hook. Exot. Fl. t.* 152. *(excl. Syn.* CONII *maculati, Humb.?)*

DESCR. *Root* annual, fleshy, itself a *tuber,* of a large size, yellow or white, and bearing several knobs or other tubers on the outside. These latter are of two sorts; the one kind, comparatively small, proceeds from the upper surface or crown of the root, inclining upwards, gives off

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* So called, from the Indian name of the plant.

each several germs or shoots towards the top, and is marked about the base with horizontal rings, bearing there membranous sheaths, which gradually wither away:—the other or larger and *edible* sort, grows on the outside and below those just mentioned, to the number of eight to ten, besides small ones, and descend into the earth; the largest measures eight or nine inches long, by two, or two and a half inches in diameter, and is nearly of the same circumference throughout, tapering off suddenly, and sending out a few small fibres at the extremity. Their surface is nearly smooth, and covered with a thin pellicle, marked across with transverse scars, like the roots of carrots. These latter are called "*Hijos,*" i. e. *sons*, in Bogotà, and are the roots generally brought to table, being more tender and more delicate in flower than the main root, or "*Madre,*" *mother.* *(Bancr.)* *Stem* erect, two to four feet high, glabrous, branched, rounded and striated, green, often streaked with purple. *Leaves,* those arising from the root, six to nine inches long, (independent of the petiole,) broadly ovate in their circumscription, pinnated with five ovato-acuminate pinnæ, which are deeply and irregularly pinnatifid, the lower pair almost again pinnated, incised and coarsely serrated, the segments acuminated. The colour is a dark green, shining, paler beneath: the serratures yellowish. *Petiole* about as long, or longer than the leaf, sheathing and membranous at the base. The stem-leaves are gradually smaller and less compound upwards, alternate, with short petioles, the uppermost ones sessile and opposite. *Umbels* mostly terminal. *Partial umbels* small, with small inconspicuous flowers: their *Involucre,* consisting of from two to eight small setaceous, simple *bracteas,* mostly on one side of the umbellule. *Blossoms* of two kinds, those in the centre of the umbel are either altogether imperfect, or they bear *stamens* only, having a flat disk in the centre. *Filaments* at first incurved, purplish. *Anthers* pale green, at length white. *Flowers* of the circumference on longer pedicels, bearing *stamens* and *pistil.* *Calyx* none. *Petals* five, (as in the male flower,) erect, not spreading in our specimens, oval, with an incurved point, and an elevated line, or frænum within, of a brownish-purple colour. The fruit I have only seen imperfect, but apparently fully formed: it is oblong, laterally compressed, each *carpel* (or *mericarp* of DECANDOLLE) having five longitudinal, equal, rather obtuse *ribs,* which are even, not wrinkled as in CONIUM. The *styles* are nearly as long as the fruit; erect or slightly diverging, dilated at the base.

We have here given the representation of a plant belonging to a Natural Order, the UMBELLIFERÆ, possessing, it must be confessed, very few external attractions; and, in general aspect, the present individual may rank among the least ornamental of its Tribe. But what this plant wants in outward charms, is amply compensated by the utility of its roots, which, in certain parts of South America, are no less esteemed than the Potato is among us. In this country, public attention was first directed to the "ARRACACHA," by an account of it published by M. VARGÁS, a native of Santa Fè, in KÖNIG and SIMS' "Annals of Botany," about the year 1805.—"The root," he says, "yields a food which is prepared in the same manner as potatoes, is grateful to the palate, and so easy of digestion, that it frequently constitutes the chief aliment of the sick. Starch and pastry are made from its fecula; and the root, reduced to pulp, enters into the composition of certain fermented liquors, supposed to be efficacious as tonics. In the city of Santa Fè, and, indeed, wherever it can be procured, the ARRACACHA is as universally used as the potato is in England. The cultivation of this plant requires deep black mould, that will easily yield to the descent of the large vertical roots. It is propagated by planting pieces of the root, in each of which is an eye or shoot; these acquire, in three or four months, a size sufficient for culinary purposes; though, if permitted to continue six months in the ground, they attain to immense dimensions, without any injury to their flavour. The colour of the root is white, yellow, or purple; but all the varieties have the same quality.

"Like the potato, the ARRACACHA does not thrive in the hotter regions of the kingdom, for there the roots will not acquire any size, but throw up a great number of stems, or at best, they will be but small and indifferent in flavour. In the countries which are there called temperate, being less hot than those at the foot of the Cordilleras, this vegetable sometimes succeeds, but never so well as in the elevated region of those mountains, where the medium heat is between 58° and 60° of FAHRENHEIT. Here it is that these sorts grow most luxuriantly, and acquire the most delicious taste."

M. VARGAS further remarks, that he was not aware of the existence of this plant in any other part of America than the kingdom of Santa Fè; and also, that it is not mentioned by any American writer except ALCEDO, who notices it in few words, at the end of his Diccionario Geographico-Historico de las Indias Occidentales ò America.

No further mention appears to have been made of this plant in Britain, till the year 1824, when Mr. **Shepherd** was so fortunate as to bring an individual into flower in the Botanic Garden of Liverpool, from which I published the figure and description given in the Exotic Flora. A few years previously, the late **Baron de Shack**, of Trinidad, had sent roots to the Glasgow Garden, and to that of the Horticultural Society of London, as well as to Liverpool. At the latter place, I believe, alone, it produced flowers, when it soon perished, as did all the other plants that had been imported: and the expectations of cultivators, that this plant might, with due care, hold a similar rank in this country with the potato, were frustrated.

In Jamaica, however, my valued friend and correspondent, Dr. **Bancroft**, directed the attention of the public to it, by an interesting memoir, which appeared in the Transactions of the Agric. and Hort. Soc. of Jamaica, and which was read before that Society at Kingston, in July, 1825. That gentleman, ever anxious to promote the interests of Science and of humanity, was no sooner made aware of the value of this plant in domestic œconomy, than, through the medium of Don **Francisco Urquinaona**, he introduced it to Jamaica. "Despairing," he says, "of succeeding with the culture of these roots in the heart of the city, (Kingston,) I placed them in charge of a very intelligent planter in St. David's Mountains, Mr. **Henry Burger**, and under his fostering care the remaining six throve perfectly; so that I was enabled in the following year to send young plants of the **Arracacha** to the Horticultural Society of London, and to His Majesty's Gardens at Kew, &c. as well as to distribute others to various friends in different parishes, through whose attention this vegetable may now, I trust, be considered as extensively and well established in this island. It is not for me to speak of the value of the **Arracacha** as an esculent; this will be best shown in the course of time. In flavor it appears to me nearly to resemble a mixture of the parsnep with the potato. I am aware that not a few of those who have tasted it but once, have not liked it; yet I believe that those who have liked it even on the first trial, are quite as numerous. For my own part, I am inclined to think, that the taste for it may rather be deemed an acquired one; having found with several persons, that its relish improved upon subsequent trials. As the root requires a longer application of heat than the vegetables in common use, a part of the distaste which has been felt for it, may have been caused by insufficient dressing. At all events, a vegetable, which has, for so many ages been the constant and favourite food of a considerable portion of the population of South America, in preference even to the potato, which is there indigenous, ought not to be thought undeserving of a fair trial in the way of cultivation in Jamaica."

When the Arracacha had arrived at perfection, Dr. Bancroft determined it to belong to a new Genus, to which he gave the native name of the plant, with a more euphonious termination, Arracacia, and the species he designated *xanthorhiza,* to distinguish it from a white and purple-rooted kind, which, however, he afterwards, I believe, justly deemed to be only a *variety:* hence Professor De Candolle's reason for changing it. To Dr. Bancroft I am indebted for drawings and many details of this plant, as our Garden is for the roots. With these valuable helps, I have been able here to give a more correct figure than that which appeared in the Exotic Flora. Still the fruit is a desideratum;—neither in Trinidad, nor in Jamaica, nor in Britain, have perfect seeds been formed: the fruit has invariably fallen away before the seeds were ripe. The plants increase considerably by the roots; and by removing the offsets from the parent roots, and keeping them through the winter, as the roots of Dahlias are kept, Mr. Murray has found them to vegetate readily in the Spring, and to succeed in a warm situation, even in the open air.

Dr. Bancroft relates the following method of cultivating this plant at Bogotà; which is, after separating the upper tubers, or knobs, from the root, to detach from these the offsets, singly, each with its portion of the substance of the tuber, which is then to be pared smoothly all round at the bottom, the outer leaves being stripped or cut off, so as to leave a sprout from half to two or three inches at the most. If any germs or eyes be seen at the base of the offsets, these must be carefully cut out. Thus prepared, the shoots are planted in loose mould, in a slanting direction, at distances of fifteen or eighteen inches from each other, whether the ground be level or sloping. Afterwards, at intervals of about two months, the soil ought to be weeded; and when the plants have attained the height of ten or twelve inches, or whenever they show a disposition to blossom, the budding tips should be taken off, as the process of flowering would hinder the root from coming to its greatest size, care being taken not to remove more than the budding extremities, lest the growth of the root should thereby also suffer; with the same view, any luxuriance in the shoots ought to be prevented, since it must be at the expence of the root. From time to time, and particularly after weeding the ground, fresh mould should be laid round the foot of each plant, to aid likewise in the enlargement of the root. In favourable situations, the ARRACACHA, I am told, attains its full size in six months. It does not seem to require a rich soil or much moisture; since here, on a loose but poor soil, in the St. Andrew's Mountains, where very little rain fell from the time it was planted until it was full grown, it throve and reached maturity in eight months. The soil which suits Yams, appears equally adapted to the ARRACACHA.

In Bogotà and Popayan, they obtain a succession of ARRACACHAS through the whole year, by planting shoots at every decrease of the moon.

The root rasped and macerated in water, deposits a fecula, which is in very general use at Bogotà, as a light nourishment for the sick, in the same manner as the fecula of the MARANTA *arundinacea* is in Jamaica.

In the Exotic Flora, I inclined to an opinion, that the CONIUM *moschatum*, of HUMB. and KUNTH. Nov. Gen. v. 5. p. 14. t. 420, might be the same as our ARRACACHA; but the more compound leaves of HUMBOLDT'S plant, their more obtuse segments, less deeply serrated, spotted when dry, the much larger umbel, trifid involucre, larger fruit, which is broad at the base, and the divaricating styles, together with the odour of musk, (whereas our plant has the heavy smell of CONIUM *maculatum*,) have induced me to consider it distinct. It is the ARRACACIA *moschata* of DE CANDOLLE. It grows in cold places, in the province of Los Pastos, near Teindala, at an elevation of eight thousand four hundred feet above the level of the sea, where it is called by the natives, *Saccharacha*; a name not very dissimilar to that of our plant.

Fig. 1. Male Flower, young. 2. Stamen from the same. 3. Male Flower, with Stamens exserted. 4. Female Flower, with a Bractea. 5. Petal. 6. Fruit, immature, 7. Partial Umbel.—All more or less *magnified*.

3093

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W.J.H. del.t

Swan Sc

ARBUTUS MUCRONATA. SHARP-POINTED ARBUTUS.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ERICEÆ.)

Generic Character.

Cal. 5-partitus inferus. *Cor.* urceolata, limbo 5-dentato, reflexo. *Antheræ* dorso biaristatæ. *Bacca* 6-locularis, placentis laminas polyspermas sistentibus.

Specific Character and Synonyms.

ARBUTUS * *macronata;* caule lignoso diffuso, foliis ovatis cuspidatis denticulato-serrulatis rigidis utrinque nitidis, pedunculis axillaribus folia subæquantibus bracteatis 1-floris cernuis.

ARBUTUS mucronata. *Linn. fil. Suppl.* 239. *Forst. Comment. Goett.* 9. *p.* 31. *Lam. Ill. t.* 366. *f.* 2. *Willd. Sp. Pl. v.* 2. *p.* 619. *Spreng. Syst. Veget. v.* 2. *p.* 287.

DESCR. *Shrub* much branched from the root; *branches* diffuse, round; *bark* brown and cracked, younger branches reddish, sparingly pubescent, the hairs flexuose, subulate, arising from red glands, at first white and soon becoming yellow. *Leaves* (eight lines long, four lines broad) on short *petioles*, scattered, turned towards the light, flat, naked and shining, dark green in front, pale behind, coriaceous, with a distinct middle rib, but obscure veins, excepting on the old leaves, which are faintly reticulated, ovate or lanceolato-ovate, denticulato-serrulate, and ter-

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* So named from *ar, rough* or *austere,* and *boisc, a bush,* in Celtic.

minated by a long, rigid bristle. *Flowers* axillary, solitary, white, nodding. *Peduncles* pale green, nearly as long as the leaves, sprinkled with reddish pubescence, and having several scattered, appressed, ovate *bracteas* on their lower half. *Calyx* naked, white, five-parted; segments acute. *Corolla* white, campanulate, rather smaller than that of CONVALLARIA *majalis,* somewhat transparent between the calyx-segments, five-toothed, segments reflected. *Stamens* ten; *filaments* cordato-ovate, white, and under a moderately powerful lens appearing rough; *Anthers* attached by their backs to the apex of the filament, erect, brown, attenuated at their points, where they open by two pores, bristles very short, erect. *Pistil* included. *Stigma* of five, erect points. *Style* nearly half as long as the whole pistil, erect, cylindrical, pale yellowish-green; *Germen* equalling the stamens in length, round, smooth, green.

We raised a single plant of this species from seed given us by Mr. MACKAY in 1828, which flowered in the Edinburgh Bot. Garden, May 1830, for the first time. It is stated by FORSTER, to be a native of the Streights of Magellan. Mr. MACKAY's seeds were received from Mr. ANDERSON, an indefatigable and highly successful cultivator, who has been sent to explore the southern parts of the continent of America, by the establishment at Clapton: but I do not know the exact station where he met with the plant. *Graham.*

Fig. 1. Leaf: *nat. size.* 2. Flower. 3, 4. Stamens. 5. Apex of a Cell of the Anther. 6. Pistil.—*Magnified.*

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W. J. H. del.t

Swan Sc.

CALCEOLARIA ANGUSTIFLORA. NARROW-FLOWERED SLIPPER-WORT.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata : labium inferius calceiforme, inflatum. *Caps.* semibivalvis : valvulis bifidis.

Specific Character and Synonyms.

CALCEOLARIA *angustiflora ;* caule suffrutescente, ramis diffusis purpureo-maculatis foliisque oppositis vel ternatis pedunculatis ovato-oblongis duplicato-serratis pubescentibus subviscidis, pedunculis axillaribus umbellatis in paniculo terminali collectis.

CALCEOLARIA angustiflora. *Ruiz et Pavon, Fl. Peruv. v.* 1. *p.* 17. *t.* 28. *f. a. Spreng. Syst. Veget. v.* 1. *p* 47.

DESCR. *Stem* scarcely woody, slender, much branched and diffused ; *branches* green, sprinkled with oblong purple spots, pubescent, hairs spreading. *Leaves* nearly two inches long and one inch broad, petioled, opposite or ternate, ovato-oblong, doubly and unequally inciso-serrated, pubescent on both sides, as well as the branches subviscid, shining and bright green above, paler below, veined and wrinkled, veins prominent below, channelled above. *Peduncles* axillary, umbellate, forming an oblong *panicle* at the extremity of the branches, the lower peduncles generally supporting four *pedicels,* two of which are occasionally branched, the upper peduncles with fewer pedicels, or simple ; two bracteas of the structure and form of small leaves, are at the origin of the pedicels, these, as well as the peduncles, pedicels, and calyx, are pubescent and subviscid :

viscid: the whole scarcely exceeding the length of the leaf, in the axil of which they are placed. *Calyx* four-parted; segments unequal, lanceolate, the upper the broadest. *Corolla* yellow, upper *lip* wanting, there being only a scarcely prominent ring, passing round the germen; lower lip extremely slender, and somewhat pubescent at its origin, turgid below, and closed by a prolongation of its upper edge, turned up and brought into contact with the stigma. *Stamens* two, having their origin from the lower half of the ring which forms the *faux* of the *corolla; filaments* erect. *Anthers* large, yellow, as in the other species, bilocular with the lobes attached to each other by their ends, and bursting along the front. *Pistil* rather longer than the stamens; *stigma* minute; *style* somewhat hooked downwards. *Germen* pubescent, and, as in the other species, conical and furrowed on two sides.

The only plant of this species which we possess, was received from the Botanic Garden of Glasgow, where it was raised from seed communicated from Lima by Mr. CRUCKSHANKS. In habit and appearance it is very distinct from any of the species already in cultivation, and corresponds with a native specimen that Mr. CRUCKSHANKS kindly gave me, as well as with the figure of RUIZ and PAVON, sufficiently to induce me to consider it as illustrative of the form to which these authors applied the specific name that I have adopted. Still, a continued experience of the tendency to produce hybrids which this Genus possesses, renders me more and more sceptical about the title which very appreciable varieties of form have to be considered specifically distinct. In a former number of the Edinburgh Philosophical Journal, I noticed some mule plants, which had been raised by Mr. GARDNER, at Grantown, near Edinburgh, by artificially impregnating some of the most distinguishable kinds of CALCEOLARIA: since that time, the same cultivator has obtained all sorts of mixtures, and blended different species into one another, through an infinity of gradations.

In the figure of RUIZ and PAVON, the lip of the corolla is much less turgid than it appears either in the cultivated plant or in my native specimens; but the representations are not always correct in these details, and the station, Canta, assigned by these authors for C. *angustiflora*, is the same as where Mr. CRUCKSHANKS gathered the individual plant that he gave me. *Graham.*

Fig. 1. Leaf, *nat. size.* 2. Corolla, with the lip forced back; slightly *magnified.*

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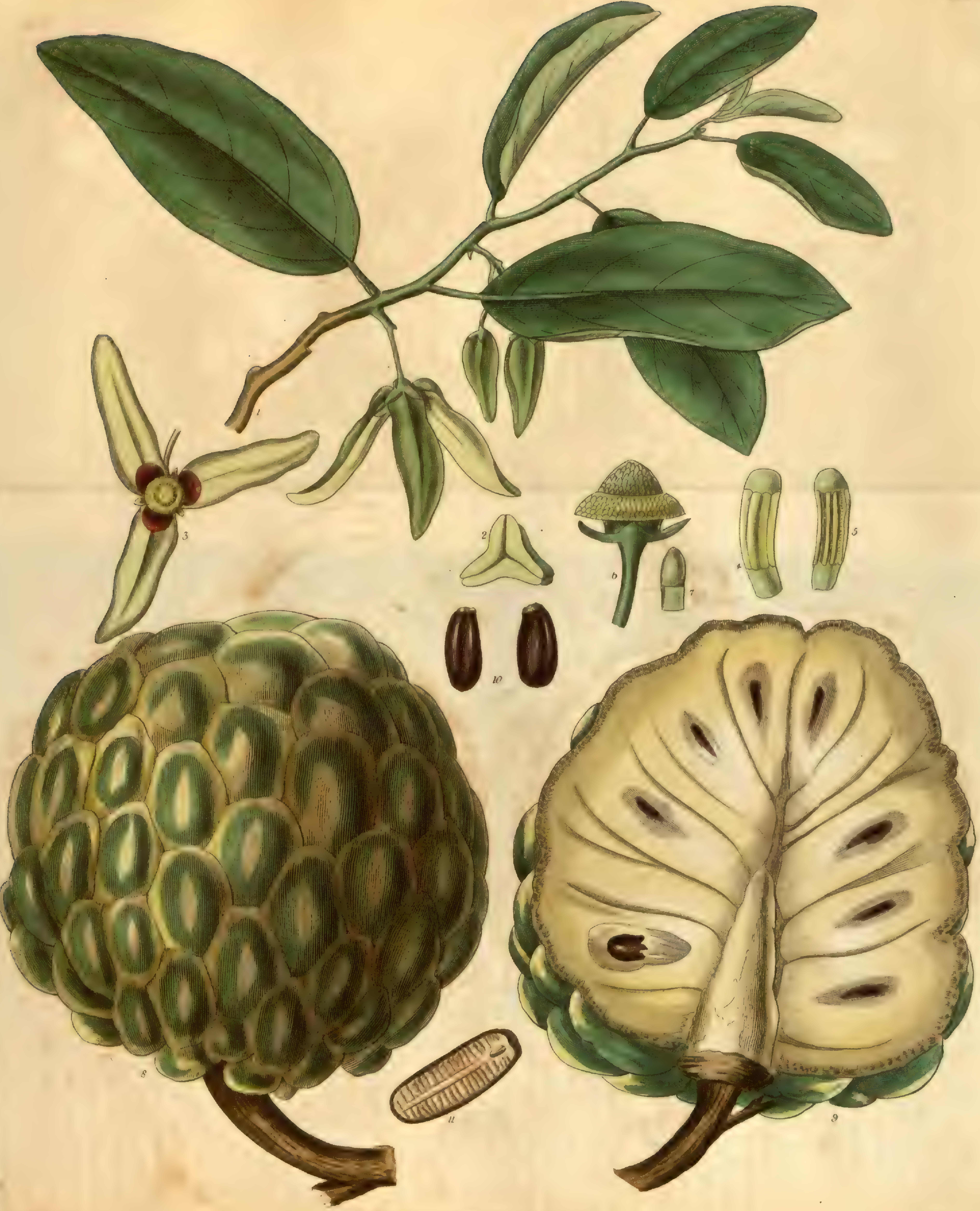
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Revd L Guilding del.
Pub by S. Curtis Glazenwood Essex. Sept 1. 1831.
Swan Sc.

ANNONA SQUAMOSA. UNDULATED CUSTARD-APPLE, SUGAR-APPLE, SWEET-SOP.

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Class and Order.

POLYANDRIA POLYGYNIA.

(Nat. Ord.—ANNONACEÆ.)

Generic Character.

Sepala 3, basi coalita concava, subcordata, acutiuscula. *Petala* 6, crassiuscula, interiora minora aut nulla; *antheræ* plurimæ subsessiles apice angulatæ dilatatæ torum obtegentes. *Carpella* plurima coalita in baccam unicam sessilem cortice muricato squamoso aut reticulato, intus pulposam, ad ambitum multi-locularem, loculis 1-spermis. *D C.*

Specific Character and Synonyms.

ANNONA *squamosa;* foliis oblongis acutis glabris, fructibus rotundatis obtuse squamosis, petalis exterioribus lanceolatis, interioribus minutis (quandoque nullis?)

ANNONA squamosa. *Linn. Sp. Pl. p.* 757. *Jacq. Obs.* 1. *p.* 13. *t.* 6. *f.* 1. *Swartz, Obs. p.* 221. *Willd. Sp. Pl. v.* 2. *p.* 1264. *Dunal, Monogr. p.* 69. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 334. *De Cand. Syst. Veget. v.* 1. *p.* 472, *Prodr. v.* 1. *p.* 85. *Spreng. Syst. Veget. v.* 2. *p.* 640.

ATAMARAM. *Rheed. Malab. v.* 3. *p.* 21. *t.* 29.

ANNONA tuberosa. *Rumph. Amb. v.* 1. *p.* 138. *t.* 46.

ANONA foliis odoratis minoribus, &c. *Sloane, Jam. v.* 2. *t.* 227.

ANONA foliis oblongo-ovatis undulatis venosis, &c. *Browne, Jam. p.* 256.

DESCR. This forms a *tree,* or large *shrub,* fourteen or fifteen feet high, with a smooth and low *trunk,* and numerous patent, rounded *branches.* *Leaves* petioled, alternate, oblong, mostly acute, entire, nerved, glaucous beneath: the *petioles* short, thickened below. *Peduncles* lateral, generally two-flowered. *Flowers* pendent. *Calyx* in three triangular, acute segments, small. *Petals:* three *exterior* ones an inch long, lanceolate, triquetrous, of a thick and fleshy texture, glabrous, moderately spreading, green without, pale within, and having a deep purple-coloured depression at the base of each; three *interior* petals minute (according to authors, but neither SWARTZ mentions them, nor does Mr. GUILDING figure or describe any). *Stamens* forming a very compact, broad ring or circle around the pistils, obtuse: *Filament* very short. *Cells* of the *anther* longitudinal, occupying the same plane as the filament. *Pistils* collected into a compact, cone-shaped body, very small, each with a capitate and somewhat acute *stigma*. *Fruit* compound, large, roundish or oval, of a yellowish-green colour, embossed with prominent, oblong and somewhat imbricated, obtuse, adnate *scales*, which in maturity spread and are more depressed; internally filled with as many pulpy cells as there are united fruits, some being abortive, the rest one-seeded: these all radiate from a central, oblongo-acuminated *receptacle*, from which, when ripe, the pulp readily separates. *Seeds* oblong, deep brownish-black, compressed, with a pale swelling at the hilum. *Albumen* filled with numerous transverse, brown lines or clefts.

The *Sweet-sop* or *Sugar-Apple* has been mentioned by some authors as a native exclusively of South America, by others, as both of Asiatic and American origin. ST. HILAIRE *, however, has come to the conclusion, that it was imported from the East Indies to the New World. " The Brazilians," he says, " designate all their ANNONAS which are truly indigenous, by the word *Araticu*, which belongs to the Guazani tongue. With regard, however, to the ANNONA *squamosa*, which I have *always* seen *cultivated*, and which VELLOZO, in his MSS. mentions as not being a native of the country, it is known under the names of *Pinha*, or *Ata*. The first of these is evidently given, from the resemblance of the fruit to that of the *Pine-apple:* yet it is never applied to those indigenous species which have the same form, consequently it was introduced to Brazil along with the plant. The second name *Ata*, is derived from *Attoa* and *Atis*,

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* Plantes Usuelles des Braziliens, Livr. 6. p. 5.

Atis, by which the plant is called in Asia, and which is of Oriental origin." Hence our author concludes that Asia is the native country of the *Sugar-Apple*. This opinion is strengthened by what SLOANE says, " that it was brought by the Chinese and Arabs from the Manhilas and Philippine Islands to Malabar, and afterwards to East India by the Portuguese." Be this as it may, the plant is now abundantly cultivated in the New as well as in the Old World, and principally on account of the fruit. Yet, in regard to its quality, there seems to be some difference of opinion. BROWNE says that, " it is pretty much esteemed by many of the fair sex, though seldom served up at table." In the French Colonies, it is known under the name of *Pomme Canelle* and *Cœur de Bœuf*, and is highly esteemed for its agreeable flavour. The unripe fruit, according to SLOANE, boiled with a little ginger in fair water, cures the vertigo; and " the leaves beaten, adding salt to them, make a poultess, which put on malignant tumours powerfully ripens them."

ANNONA *squamosa* was introduced to the stoves of this country in the year 1731, but it does not appear that it has ever produced fruit, nor even flowers in this country: hence I have great pleasure in publishing, though on a reduced scale, the beautiful drawings sent to me by my friend the Rev. LANSDOWN GUILDING, and made by him from the living plant in the Island of St. Vincent.

Fig. 1. Small flowering Branch; *nat. size*. 2. Section of a bud, made near the middle. 3. Expanded Flower. 4, 5. Stamens. 6. Calyx, Stamens, and Pistils. 7. Single Pistil: *magnified*. 8. Ripe Fruit. 9. Vertical Section of ditto. 10. Seeds: *nat. size*. 11. Section of a Seed: *magnified*.

W.J.H. delt. Pub by S. Curtis Glazenwood Essex. Sepr. 1. 1831. Swan Sc.

TOURNEFORTIA HELIOTROPIOIDES. HELIOTROPE-LIKE TOURNEFORTIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—BORAGINEÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* hypocrateriformis (v. subrotata) fauce nuda. *Stamina* inclusa. *Stigma* peltatum subconicum. *Bacca* di- (rarius tetra-) pyrena, ossiculis dispermis. *Br.*

Specific Character.

TOURNEFORTIA [*] *heliotropioides;* suffruticosa, ramis herbaceis hirsutis, foliis ellipticis obtusis utrinque pubescentibus margine undulatis, racemis bis terve dichotomis, bacca tetrapyrena.

DESCR. *Stem,* in our plant, one and a half to two feet high, rounded, branched, hairy, somewhat shrubby, perennial, the branches soft and herbaceous. *Leaves* alternate, petioled, elliptical or ovato-elliptical, obtuse, very veiny and wrinkled, waved at the margins, entire, soft on both sides with short hairs or pubescence. *Peduncle* terete, hairy, terminal, often with a single leaf, twice or rarely thrice branched, the ultimate divisions revolute, and bearing a one-sided, two-ranked *raceme* of many *flowers,* almost exactly resembling those of HELIOTROPIUM *peruvianum,* but rather larger, and instead of yielding the delicious scent of that universal favorite, imparting a disagreeable odour.

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[*] So named in honor of JOSEPH PITTOU DE TOURNEFORT, a Physician, Traveller, and one of the greatest among the Botanists of France.

Calyx in five deep, broadly linear, obtuse, at length spreading segments, hairy. *Corolla* hypocrateriform: its *tube* deep yellow, hairy within; its *limb* five-lobed, spreading, somewhat plicate, pale lilac. *Stamens: Anther* very small, nearly sessile, inserted near the base of the tube. *Pistil* exceedingly short. *Germen* globose, glabrous. *Stigma* sessile, large, conical, slightly glandular, yellow. *Fruit* (immature) a nearly globose, but somewhat compressed, four-celled, four-seeded *berry*, tipped with the black, withered *stigma*, and surrounded by the persistent *calyx*.

This plant has so completely the aspect of a HELIOTROPIUM, that without an examination of the pistil or fruit, no one would suspect it to belong to the Genus TOURNEFORTIA. As an ornamental plant, its merits may be ranked with our well-known HELIOTROPIUM *peruvianum* and *corymbosum*: but its flowers are unfortunately devoid of fragrance.

Seeds were received at the Garden of Glasgow from the Reverend Mr. LANSBURGH; and the plants flowered in the stove in the month of May, 1831. It is a native of Buenos Ayres.

Fig. 1. Flower. 2. Pistil, with the lower portion of the Tube of the Corolla bearing the Stamens. 3. Calyx and nearly ripe Fruit. 4. Section of the Fruit: *magnified.*

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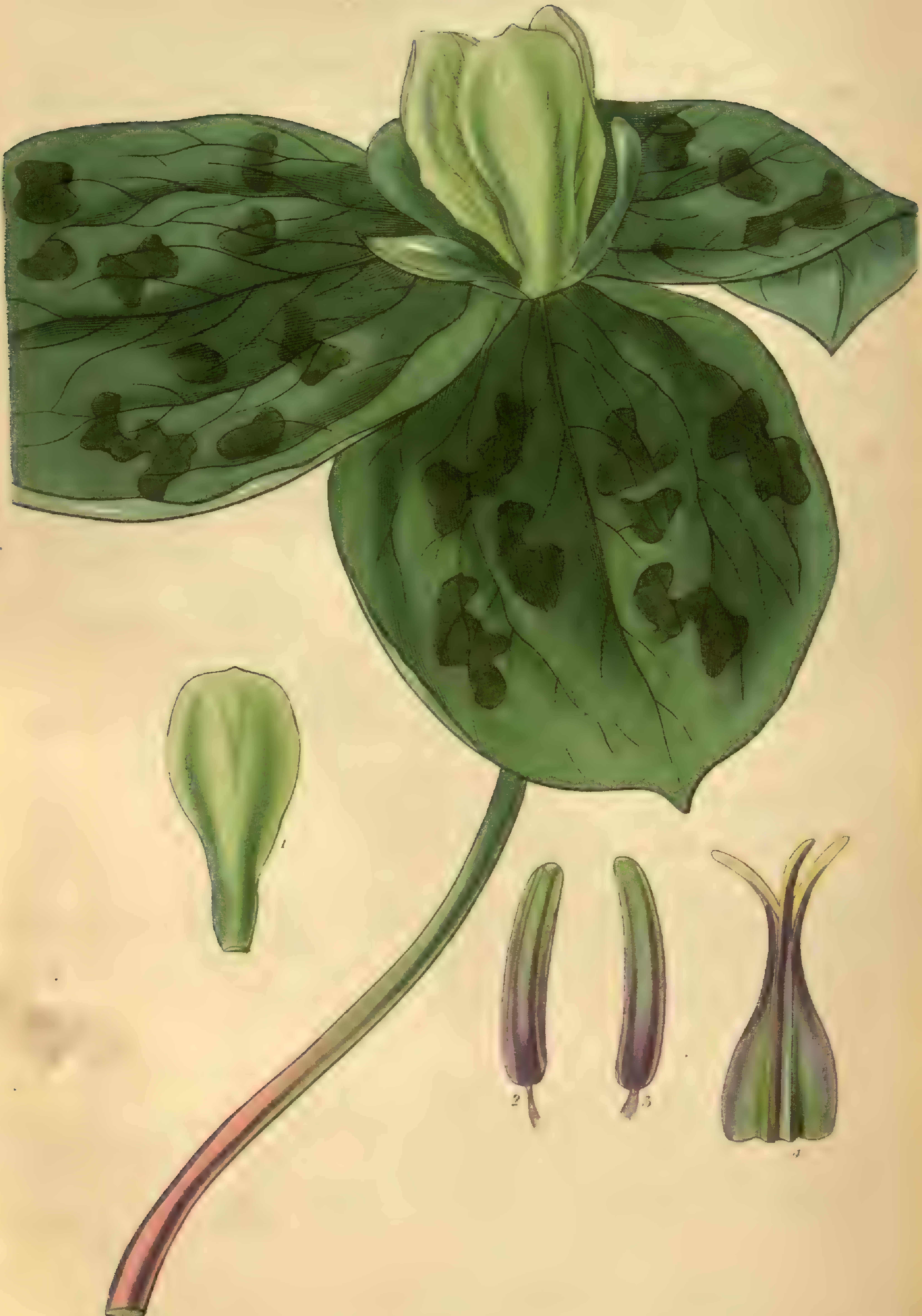

W.J.H. del.t Pub by S. Curtis Glazenwood Essex Sep.t 1.1831 Swan

(3097)

TRILLIUM DISCOLOR. GREEN-FLOWERED TRILLIUM.

* * *

Class and Order.

HEXANDRIA TRIGYNIA.

(Nat. Ord.—SMILACEÆ.)

Generic Character.

Cal. 3-phyllus. *Cor.* 3-petala, patens. *Filamenta* glabra. *Antheræ* longitudinaliter adnatæ. *Stigmata* linearia, sessilia, reflexa. *Bacca* trilocularis, polysperma.

Specific Character and Synonyms.

TRILLIUM *discolor ;* flore sessili erecto, petalis obovatis obtusis obtuse mucronulatis inferne attenuatis calyce dimidio longioribus, foliis sessilibus lato-ovalibus acutis.

TRILLIUM discolor. *Wray, in litt.*

DESCR. *Stem* nearly a span high, erect, flexuose, of the thickness of a goose-quill, glossy, dark purple, green above, where, at the very extremity, it bears a *whorl* of three large, broadly oval, quite sessile, acute, spreading *leaves,* perfectly glabrous, dark green and obscurely blotched above, paler beneath, with five wavy ribs, which are connected by oblique nerves. *Flower* solitary, large, sessile in the centre of the three leaves, and at the summit of the stem. *Calyx* of three large, green, spreading *sepals,* oval-oblong, acute. *Petals* three, erect, half as long again as the calyx, obovate, very obtuse, with a short blunt mucro, of a pale sulphur-yellow inclining to green, tapering below into a broad and pale green claw. *Stamens* six, about one-third the length of the petals, erect : *Filaments* very short, purple. *Anthers* linear, dull purple, acute, and a little incurved at the extremity, the cells lateral, longitudinal, yellow. *Pistil :*

Pistil: Germen ovate, three-lobed, with two prominent angles at the margin of each lobe, purplish-green. *Styles* linear-obtuse, purple without, yellow within.

In the month of January of the present year, our Botanic Garden of Glasgow was enriched with a box of rare plants, packed in *Sphagnum*, from Augusta, in Georgia, communicated by our valued correspondent, Dr. WRAY, of Augusta, the intimate friend of the late STEPHEN ELLIOTT, Esq. With very few exceptions, these plants, on account of the excellent mode in which they were packed, have succeeded perfectly well, and among them, the new TRILLIUM, here figured, flowered vigorously in May of the present year, 1831, having been treated as an inmate of the greenhouse. I have retained the name which was attached to the plant, and which was probably given to it by Dr. WRAY himself, in consequence of the great difference in the color of its flower from that of TRILLIUM *sessile*, with which it agrees in the sessile leaves and sessile and erect flowers, but from which it is strikingly different, no less in the broadly ovate petals, than in their peculiar, pale greenish-yellow hue, which also exhale a smell, resembling the American *Allspice*.

This species grows freely in a mixture of peat and loam, and will probably prove as hardy a perennial as other species of this Genus have shown themselves to be with us.

Fig. 1. Petal, *nat. size*. 2. Front view of a Stamen. 3. Back view of ditto. 4. Pistil: *magnified*.

J. Nicholson M.D. del.

Pub by S Curtis Glazenwood Essex Sep^r 1 1831

Swan sc.

BRASSAVOLA ELEGANS. ELEGANT BRASSAVOLA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum ungue simplici; lamina indivisa (raro triloba). *Petala* distincta, patula. *Massæ Pollinis* 8 (vel plures !) *Br.*

Specific Character and Synonym.

BRASSAVOLA *elegans;* scapo racemoso, labello amplo basin columnæ amplexante profunde trilobo, columna superne lato-alato.

CYRTOPODIUM elegans. *Hamilt. Prod. Pl. Ind. Occ. p.* 53. *cum Ic.*

DESCR. *Root* consisting of several long, cylindrical, fibres, of a cinereous colour. *Stem* procumbent, rooting, jointed, and covered with greyish, dry, membranaceous sheaths. *Leaves* linear-subulate, semi-cylindrical, channelled above, coriaceous. *Scape* two feet long, filiform at the base, knotted and covered with grey, appressed, scariose sheaths, towards the apex and at the base of the flower-stalks, bearing minute *bracteæ*. *Flowers* loosely spiked: *Peduncles* about an inch in length. *Perianth* five-parted, the segments nearly equal, (the three outer ones ovato-lanceolate, the two inner narrower,) brownish-green, striated. *Labellum* three-lobed, lateral lobes oval, rose-coloured, middle-lobe obovate, or somewhat rhomboidal, thickened and callous towards the base, where it is of a yellow colour, the lamina is rose-coloured, and marked with five purple lines. *Column* somewhat boat-shaped, expanded at the summit, where there is a small cavity with a four-toothed margin for the insertion of the anther. The *Stigma* occupies a triangular depression on the upper and anterior part of the column, immediately below the insertion of the anther. Below the stigma the *Column* becomes somewhat tumid anteriorly, and has a small channel leading down to a short tube formed by the junction of this part of the column with the middle lobe of the labellum. The *lateral lobes* are attached to the sides of the column; so that, except a small portion posteriorly, opposite the superior segment of the perianth, the column is *completely* embraced by the labellum. The tube formed by the base of the column does not lead to the germen, and its throat is nearly closed by the *calli* of the middle lobe. The column is yellow anteriorly with rose-coloured wings. The *anther* is opercular, deciduous, heart-shaped, eight-celled, (one for each mass of pollen, linear, oblong, parallel, and one for each of the spherical bodies which terminate the caudiculæ or filamentous appendages of the masses,) divided by their membranaceous *septa,*) of a purple colour. *Pollen-Masses* four, pyriform, compressed, parallel, yellow, each having a separate caudicula, reflected upon itself, and terminated by a small yellow, viscid, spherical, or glandular body.

I am indebted to Dr. Nicholson of Antigua for the drawing and description of the present interesting Orchideous plant, which has, I believe, been hitherto nowhere noticed, except in the work above quoted, and which appears to be exclusively an inhabitant of the Island of Antigua. It there grows, neither in soil, nor upon trees, but, as Dr. Hamilton, its original discoverer, observes, upon *stones:* and according to Dr. Nicholson, " upon lofty rocks of the trap formation, along with Epidendrum *ciliare*, Oncidium *pulchellum*, Pitcairnia *bromeliæfolia*, Pilea *muscosa*, Peperomiæ, and many species of *Ferns*. The same gentleman well observes, that it cannot properly be arranged with the Cyrtopodia, as will also appear by his own accurate analyses: and if these be compared with the flowers of Brassavola, I think it will be evident that the plant belongs to the same Genus. The structure of the foliage, too, is alike in both. Our plant differs from Mr. Brown's character of Brassavola in its deeply three-lobed lip; but in B. *tuberculata* and B. *cucullata*, the only hitherto known species of the Genus, the two sides at the base are somewhat dilated, or imperfectly lobed, and, in all, the base of the lip almost surrounds the lower part of the column.

Fig. 1. Flower. 2. Flower, from which the Column is removed. 3. Front view of the Column. 4. Anther with its Pollen-Masses. 5. Anther-Case. 6. Four of the Pollen-Masses, with their Caudiculæ. 7. Section of a nearly mature Capsule :—more or less *magnified*.

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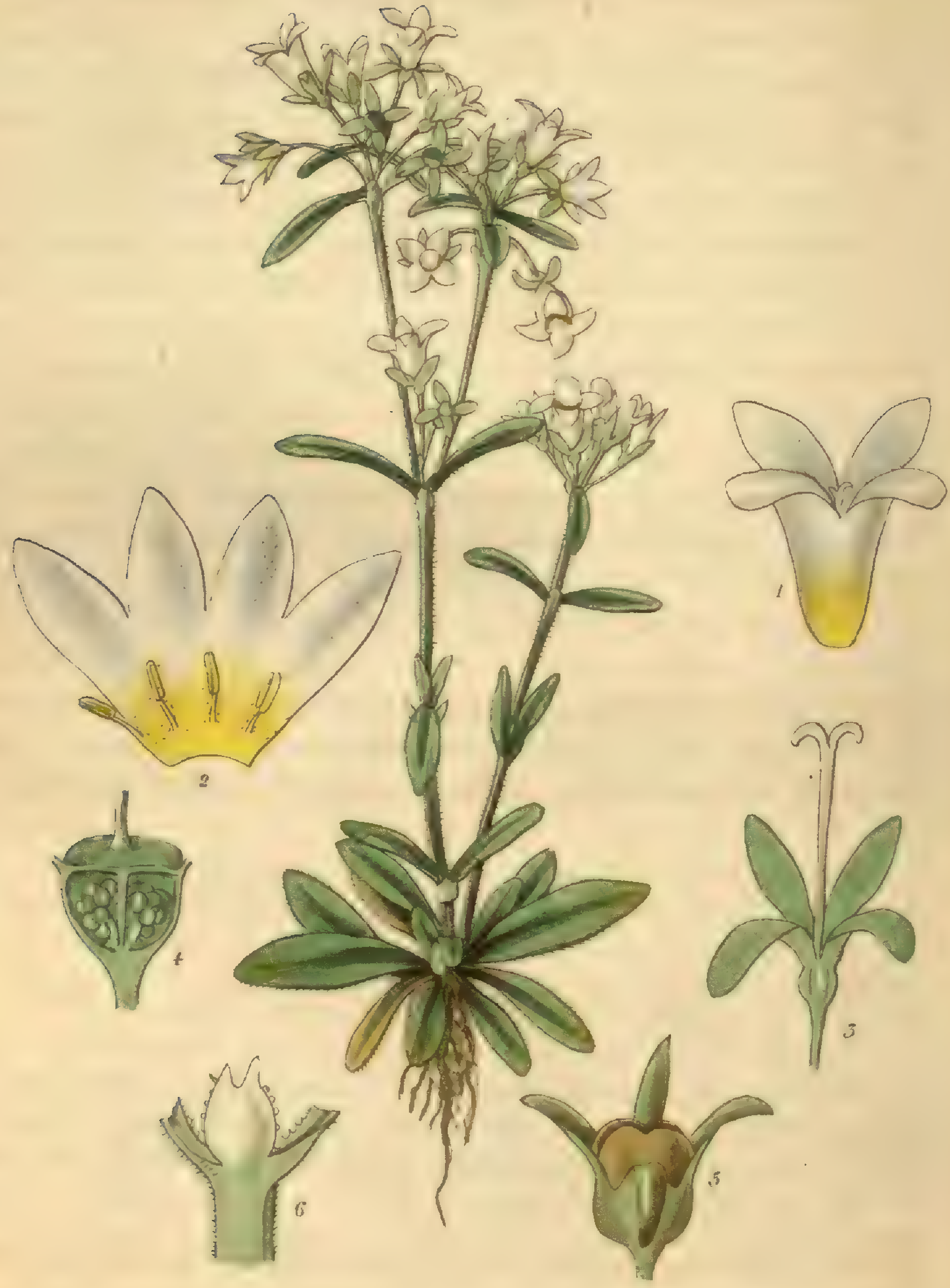

W. J. H. delt.

Pub. by S. Curtis Glazenwood, Essex. Sepr. 1. 1831.

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HOUSTONIA LONGIFOLIA. LONG-LEAVED HOUSTONIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—RUBIACEÆ.)

Generic Character.

Cal. 4-fidus. *Cor.* infundibuliformis, 4-fida. *Stigma* bifidum. *Caps.* bilocularis, placenta fungosa dissepimento annexa.

Specific Character and Synonyms.

HOUSTONIA [*] *longifolia;* caule erecto ramoso tetragono ad geniculas præcipue pubescente, foliis lineari-oblongis radicalibus inferne attenuatis pubescentibus basi ciliatis, stipulis lato-ovatis integris vel bi- tridentatis membranaceis, staminibus inclusis.

HOUSTONIA longifolia. *Gærtn. de Fruct v.* 1. *p.* 226. *t.* 49. *f.* 8. (quoad fructum). *Willd. Sp. Pl. v.* 1. *p.* 583. *Roem. et Sch. Syst. Veget. v.* 3. *p.* 208. *Spreng. Syst. Veget. v.* 1. *t.* 427. *Bigel. Fl. Bost. ed.* 2. *p.* 53. *Elliott, Carol. v.* 1. *p.* 192. *Torrey, Fl. Am. v.* 1. *p.* 173.

HOUSTONIA angustifolia. *Mich. Fl. Am. v.* 1. *p.* 85. *Pursh, Fl. Am. v.* 1. *p.* 106.

DESCR. Perennial. *Root* small, of many branching fibres. *Stem* from four or six inches to a span or even a foot high, branched, at times very considerably so, four-sided, sometimes nearly glabrous, generally downy below the joints. *Leaves* linear-oblong, in our specimens opposite, spreading, the radical leaves the broadest and attenuated at the base, pubescent, especially near the margin on the upper surface, and ciliated at the base; the cauline leaves only ciliated at the base. The upper sides of the foliage are of a rather dark green, and when seen under a lens

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[*] In compliment to WILLIAM HOUSTON, who published a Memoir on the *Contrayerva* in the Philosophical Transactions.

appear to be covered with minute, elevated points; below paler, and quite even. *Stipules* opposite, broadly ovate, almost rotundate, white, membranous, entire or two- or three-toothed at the extremity, the margin often glandular. *Flowers* at the extremity of the branches in rather compact and somewhat corymbose, leafy *panicles*. *Calyx* four-partite, with linear, oblong, spreading segments, sometimes a little ciliated at the margin. *Corolla* somewhat infundibuliform, white, or very pale purple, yellow at the base, the *limb* cut into four spreading, rather acute, ovate segments:—inside, the corolla is slightly downy on the limb, and in the lower part of the tube. *Stamens* small, inserted near the base of the tube, and not attaining to the summit of it. *Anthers* linear, yellow. *Pistil: Germen* inferior, turbinate, marked with elevated lines, two-celled, many-seeded, the *ovules* attached to a central, free column: the upper part of the germen is convex. *Style* as long as the tube of the corolla. *Stigma* bifid, glandular, white. *Fruit* a half-inferior, two-celled *capsule*, surrounded by the persistent calyx and opening at its free, two-lobed extremity into two valves. *Seeds* small, black.

This plant was received at the Botanic Garden, Glasgow, from Mr. CUNNINGHAM, of Edinburgh, as a native of the Blue Mountains of N. America, whence I believe it was introduced by Mr. BLAIR. In referring it to the HOUSTONIA *angustifolia* of MICHAUX (which is now almost universally considered to be the same as the H. *longifolia* of WILLDENOW), I have been influenced by a specimen, evidently of the same species, from Lake Champlain, in Dr. BOOTT's collection, marked as the plant of that name in PURSH's Herbarium. Other individuals which I possess from North America have narrower and sharper leaves: so that the plant is probably liable to much variation in that respect, as well as in the color of its flowers. But our specimens accord almost as well with MICHAUX's description of the narrow-leaved varieties of his H. *varians (purpurea,* WILLD.) as with his *angustifolia;* only he describes the stamens as exserted, which is not the case in our plant. If this plant proves, as I have good reason to suppose it is, a true HOUSTONIA of LINNÆUS, I do not see how it can possibly be separated from the RUBIACEÆ and referred to GENTIANEÆ, as has been done by DE CANDOLLE. Indeed *Anotis* of DE CAND. in the Ord. RUBIACEÆ, seems to me identical with the Genus of the present individual.

Fig. 1. Corolla. 2. The same laid open. 3. Calyx and Pistil. 4. Section of a Germen. 5. Capsule. 6. Stipules.—*Magnified.*

W. J. H. delt.

Pub. by S. Curtis, Glazenwood Essex, Sepr. 1. 1831

Swan Sc.

PALAVIA RHOMBIFOLIA. RHOMB-LEAVED PALAVIA.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Cal. nudus, 5-fidus. *Carpella* plurima monosperma in capitulum absque ordine aggregata. *De Cand.*

Specific Character and Synonyms.

PALAVIA* *rhombifolia ;* foliis rhomboideis lobato-crenatis ad venas sparsim stellato-pilosis pedunculo brevioribus, stipulis subulatis ciliatis viridibus, petalis obovato-cuneatis oblique emarginatis, caule prostrato ramoso parce stellato-piloso.

PALAVIA rhombifolia. *Graham, in Edin. Phil. Journ. Sept.* 1830.

DESCR. Annual? *Stem* prostrate, branched, sprinkled very loosely with rather rigid hairs, which are single or stellate. *Leaves* an inch and three quarters long, one and a half broad, alternate, petioled, soft, bright green above, paler below, rhomboid, glabrous, sublobate, or deeply and unequally crenate, nearly entire at the base, five-nerved, veined, the nerves and veins prominent below, channelled above, and both above and below, but especially on the latter surface, loosely sprinkled with hairs, similar to those on the stem. *Petioles* one inch long, rather shorter than the leaves, having a shallow groove along their upper

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* Named in compliment to ANTONIO PALAU Y VERDERA, a Professor of Botany at Madrid.

surface, ciliated. *Stipules* subulate, ciliated, green, spreading, connivent at the apices. *Peduncles* three inches long, solitary, axillary, longer than the leaves, loosely provided with hairs like those on the other parts of the plant, slightly tapering, jointed near the calyx, but not swollen at the joint. *Flowers* large, scentless. *Calyx* persistent, five-cleft, green, more hairy both within and without than any other part of the plant; *tube* somewhat fleshy and lighter-coloured than the cordato-ovate, acute, more membranous segments, the edges of which are compressed and prominent in the bud. *Corolla* thrice as long as the calyx, rose-colored, veined, flat, (then two inches across,) and becoming paler when fully expanded; *Petals* five, obovato-cuneate, obliquely emarginate, glabrous, ciliated at the base, æstivation twisted. *Stamens* monadelphous, numerous; *sheath* of a pale rose colour, bearing at or near the top the partial *filaments*, which, as well as the anthers, are darker and orange-red; *anthers* kidney-shaped, dotted, bursting by a suture along the back; *Pollen* globular, smooth, yellow. *Styles* numerous, cohering at their base, equal to the stamens in length, purple, appearing rough under the microscope. *Stigmas* flat, deep purple, villous: *Germens* numerous, each containing a single *ovule*, green, dotted, glabrous, collected irregularly into a head, inclosed within the calyx.

This is a very pretty plant; and if it will bear cultivation in the open border as an annual, promises soon to become common. The seeds were received from Mr. Cruckshanks in the spring of 1830, having been collected by that gentleman near Lima. It bears a profusion of blossoms in a hot-bed, at the Botanic Garden of Edinburgh.

This species has much affinity with Palaua *moschata* of Cavanilles' Dissert. v. 1. p. 41. t. 11. f. 5, (Palavia *moschata* of later writers,) but which is described as being tomentose, with an erect stem, cordate leaves, coloured stipules, and roundish, yellow petals, whose hue passes into purple. The figure above quoted, also represents a tumefaction at the joint of the peduncle, which is quite wanting in our present species; nor can I perceive the existence of perfume in any part of the plant. *Graham.*

Fig. 1. Column of Stamens including the Styles: *magnified.*

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Pub by S Curtis Glazenwood Essex, Sep! 1.1831

Sw. [illegible] Sc.

ASPLENIUM NIDUS. BIRD'S NEST SPLEENWORT.

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Class and Order.

CRYPTOGAMIA FILICES.

(Nat. Ord.—FILICES.)

Generic Character.

Sori lineares, sparsi, dorsales. *Involucrum* e vena lateraliter ortum ducens, margine superiore libero. *Br.*

Specific Character and Synonyms.

ASPLENIUM* *Nidus;* frondibus lanceolatis integerrimis glabris subsessilibus, soris confertis parallelis costæ approximatis.

ASPLENIUM Nidus. *Linn. Sp. Pl. v.* 2. *p.* 1537. *Swartz, Syn. Fil. p.* 74. *Willd. Sp. Pl. v.* 5. *p.* 304. *Br. Prodr. Fl. Nov. Holl. p.* 50. *Kaulf, Enum. Fil. p.* 164. *Spreng. Syst. Veget. v.* 4. *p.* 80. *Wall. Cat. of Pl. in Mus. of E. Ind. Comp. n.* 198.

" PHYLLITIS indica maxima foliis latissimis planis Musæ facie. *Moris. Hist.* 3. *p.* 558. *s.* 14. *t.* 1. *f.* 15."

" SCOLOPENDRIA Indiæ Orientalis, Musæ facie. *Breyn. Cent.* 129. *t.* 99."

DESCR. This *Fern,* in its native country, seems to be a parasite on the trunks of trees. Its *roots* are tufted, and from their summit arises in a spreading circle, a crown of nearly sessile, lanceolate, shortly acuminated *fronds,* two feet and a half to three feet in length, of a rich green colour, somewhat glossy, and of a texture between coriaceous and membranaceous, having a strong *midrib* and numerous very closely-placed, parallel, oblique, delicate nerves, the margin a little thickened, and quite entire. The *lines of fructification* are very copious, densely placed in parallel lines almost from the base to the extremity of the frond, and extending from near the midrib two-thirds of the way towards the margin. *Involucres* very long and extremely slender. *Capsules* globose, dark brown, on long, slender stalks, and surrounded by a rather broad ring.

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* From α, *not,* and σπλην, *the spleen,* some species having been esteemed useful in removing obstructions of the viscera.

The *Bird's Nest Spleenwort* is a native of the Peninsula of India and Islands of the Indian Seas, extending to those of the Pacific Ocean, where it has been found in the Ladrone Islands, and to Oahu of the Sandwich group. Our finest dried specimens are from the Mauritius, gathered by C. TELFAIR, Esq., Professor BOJER, and M. BOUTON.

Professor RADDI has given it has an inhabitant of Brazil, but neither his figure nor description agree with the true plant, and it does not appear to be an inhabitant of the New World at all. In the stoves of our country it has only been cultivated, according to LOUDON's Hortus Britannicus, since 1820; but it is a highly ornamental plant, and deserving a place in every collection. The mode of growth of this plant, its fronds forming a circle, hollow in the middle, would alone justify the specific name given by LINNÆUS; but it seems to have originated from another circumstance: "the root," he says, "fixes itself upon the lofty trees, whence the leaves rise erect, and arrange themselves in a circle, like an umbel, in the hollow centre of which the birds are frequently accustomed to build their nests."

Fig. 1. Plant, *greatly reduced in size*. 2. Portion towards the Apex of a Frond, with its Lines of Fructification. 3. A Sorus. 4. Capsules:—*magnified.*

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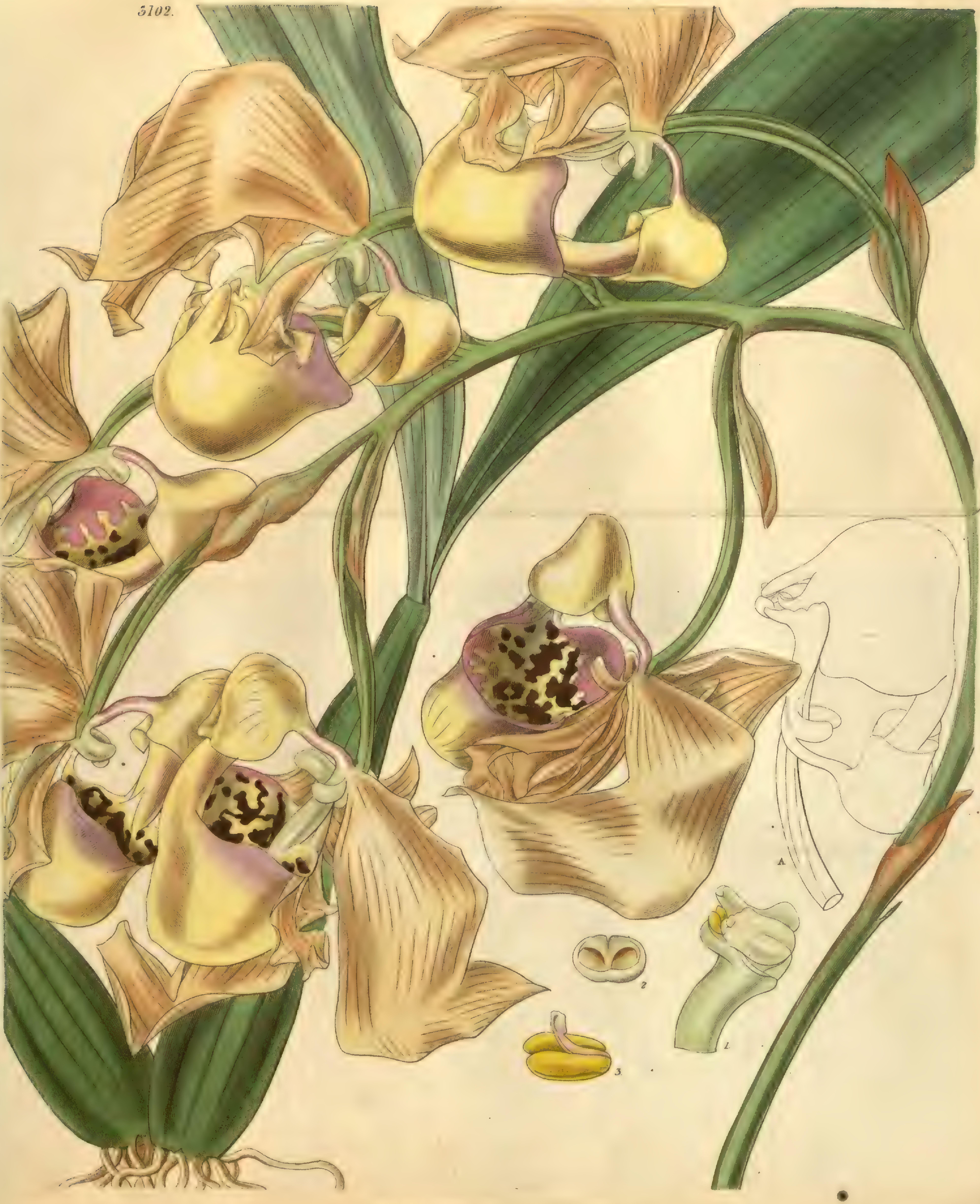

W.J.H del.ᵗ

Pub. by S. Curtis. Glazenwood Essex Oct.ʳ 1 1831.

Swan Sc.

(3102)

CORYANTHES MACULATA. SPOTTED-LIPPED CORYANTHES.

* *

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

CORYANTHES: nov. gen. *Petala 3 exteriora* patentissima reflexa, quorum *lateralia* maxima; 2 *interiora* multo minora, erecta. *Columna* cylindracea, basi bidentata, apice truncata bialata, alis dorso utrinque productis. *Labellum* poculiforme stipitatum, appendicem maximam galeiformem tridentatam pedunculatam, columnam in parte tegentem, gerens. *Anthera* terminalis, operculiformis. *Massæ pollinis* 2, ovatæ, compressæ, margine hinc rima longitudinali, pedicello replicato.

Herbæ *parasiticæ Americæ meridionalis, intertropicæ.* Bulbus *elongatus diphyllus.* Flores *inter maximos hujusve ordinis, racemosi, flavi.*

Specific Character.

CORYANTHES* *maculata;* bulbo elongato, foliis lato-lanceolatis, racemis multifloris nutantibus, (labello intus purpureo-maculato.)

DESCR. *Bulbs* clustered, five to six inches long, striated, about an inch broad near the base and tapering upwards, at the base throwing out tortuouse, fibrous *roots;* at the extremity bearing two broadly lanceolate, striated, and somewhat membranaceous *leaves.* *Scape* a foot and a half in length, arising from the base of the bulb, at first thrown out in a horizontal direction, at length from the weight of the flowers quite pendulous. *Bracteas* membranaceous, ovato-lanceolate, large, two or three upon the scape, where they are sheathing, and one at the base of each of the flowers. The two larger *petals*, as soon as the flowers expand, spread out in an horizontal direction, and then from their size and texture, they resemble a bat's wings, soon becoming reflexed and withering. The colour of the petals is a pale ochraceous yellow, that of the lip and its appendage more inclining to yellow, the latter tinged at the margin, and spotted inside with purple. The structure of all the parts of the flower is so similar to that of **Gongora** *(Coryanthes) speciosa*, figured at t. 2755 of this work, that it is scarcely necessary to repeat the description.

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* From κορυς, *a helmet,* and ανθος, *a flower;* from the large helmet-like appendage to the lip of the flower.

Although in the vegetation of this plant, and also in some degree in its flowers too, there exists a considerable affinity with the Genus **Gongora** of **Ruiz** and **Pavon**; (and of Exotic Flora, t. 178;) yet there are few who will not allow, that it might well form a distinct Genus, in its labellum very unlike all other known Orchideæ. Hence I have been led to distinguish it under the appellation of **Coryanthes**; which I am the more disposed to do, now that I have seen three species belonging to the same Genus, all agreeing in general habit and essential character.

The *first* of these is the **Gongora** *speciosa* above referred to; the *second*, **Gongora** *macrantha* (Bot. Miscellany, t. 80,) remarkable for its plaited margin to the stalk of the galeate appendage; and our present plant is the *third*, which certainly approaches very near to the first of those now mentioned. It differs in the much greater breadth of its leaves, in its more numerous and pendulous racemes, and especially in the colour of its flowers, which are here of a pale and dingy yellow more or less approaching to tawny, and in having the inside of the appendage to its labellum spotted and blotched with purple. It is a native of the trunks of trees in the forests of Demerara, where it was discovered by **James Ankers**, Esq. and communicated to C. S. **Parker**, Esq. of Liverpool, who presented it with many rarities from the same fertile country, to the Liverpool Botanic Garden.

It blossomed in the stove of that collection in the month of June, 1831, and was sent to us by our often-mentioned friends, the Messrs. **Shepherds**.

A. Column and Lip, with its Helmet-shaped Appendage: *nat. size.* Fig. 1. Summit of the Column with the Anther. 2. Inner view of the Anther-case. 3. Pollen-Mass.—*Magnified.*

3103

W.J.H. del.ᵗ

Pub. by S Curtis, Glazenwood Ess [illegible]

LONICERA HIRSUTA. HAIRY AMERICAN WOODBINE.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—CAPRIFOLIACEÆ.)

Generic Character.

Calycis tubus 5-dentatus. *Cor.* tubulosa, campanulata aut infundibuliformis, limbo 5-fido sæpe irregulari. *Stam.* 5. *Stylus* filiformis. *Stigma* capitatum. *Bacca* 5-locul., loculis oligospermis. *Semina* crustacea.—Frutices *interdum scandentes.* Folia *opposita interdum connata, integra aut in iisdem speciebus subruncinata.* Flores *axillares dispositione varii.* D C.

Specific Character and Synonyms.

LONICERA[*] *hirsuta;* volubilis, verticillis capitatis glanduloso-pubescentibus, foliis late ovato-ellipticis breviter petiolatis pubescentibus ciliatisque subtus glaucis, summis connato-perfoliatis.

LONICERA hirsuta. " *Eaton, Man. of Bot. ed.* 3. *p.* 341." *ed.* 4. *p.* 352. *Torrey Fl. of Midd. St. of N. Am. v.* 1. *p.* 242.

LONICERA pubescens. *Sw. Hort. Brit. p.* 194. *De Cand. Prodr. v.* 4. *p.* 332.

CAPRIFOLIUM pubescens. *Goldie in Ed. Phil. Journ.* (1822,) *v.* 6. *p.* 323. *Hook. Ex. Fl. t.* 27.

DESCR. *Stem* climbing, six to eight feet high, more or less downy, terete. *Leaves* large, of a full deep green,

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[*] In compliment to ADAM LONICER, a German Naturalist of the sixteenth century.

in opposite and rather remote pairs, ovato-elliptical, waved, rather acute, the lower ones almost obovate, and on short petioles, the upper sessile, and the uppermost ones connato-perfoliate, downy on both sides, but especially beneath, where they are glaucous, ciliated at the margin. The *floral leaves* are quite glabrous above. *Flowers* in terminal, capitate *whorls;* the extreme ones generally in three heads, of a fine golden-yellow colour, externally, and partially within, glanduloso-pubescent. *Calyx* of five very minute teeth. *Corolla* with the tube longer than the limb, curved. *Upper lip* broadly cuneate, five-toothed, lower one linear, the margins recurved. *Stamens* exserted. *Filaments* hairy in their lower half. *Anthers* oblong. *Style* nearly as long as the stamens. *Stigma* orbicular, depressed.

This beautiful and hardy species of Honeysuckle was introduced to our gardens by Mr. GOLDIE of Ayr, from North America, in the year 1819, and published by him in the Edinb. Phil. Journal, in April, 1822, under the name of CAPRIFOLIUM *pubescens,* by which appellation also it appeared shortly after in the Exotic Flora. Neither Mr. GOLDIE nor myself were then aware that the same plant was known to Mr. EATON, an American Botanist, and published by him in the third edition of his useful Manual of Botany, as LONICERA *hirsuta,* n. sp. That edition, I have indeed not yet had the opportunity of seeing; but judging from the date of the Preface to the fourth edition, (1823,) and from the circumstance of Dr. TORREY'S giving the preference to Mr. EATON'S name, it must have the right of priority.

I do not see any reason for suspecting, with Dr. TORREY, that this is only a variety of LONICERA *flava,* CURT. (CAPRIFOLIUM *Fraseri* of PURSH,) which has glabrous flowers and leaves, and cartilaginous margins to the latter, and appears to be a much more Southern species.

Our figure is taken from a fine plant, which blossomed in the Glasgow Bot. Garden, in June, 1831.

Fig. 1. Flower. 2. Stamen. 3. Stigma and part of the Style: *magnified.* 4. Lower Leaf, *nat. size.*

W. J. H. delt.
Pub: by S. Curtis Glazenwood Essex Octr. 1. 1831.
Swan Sc.

(3104)

TORENIA SCABRA. ROUGH TORENIA.

* *

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. tubulosus 5-dentatus, v. bilabiatus, labiis 2—3-dentatis. *Cor.* ringens, labio superiore bilobo, inferiore trifido. *Stamina* didynama: *Antheris* per paria cohærentibus, lobis oppositis: *filamentis* longioribus dente laterali auctis. *Stigma* bilamellatum. *Caps.* bilocularis, bivalvis, valvis integris; dissepimento parallelo libero.—Herbæ. Folia *opposita, dentata.* Pedunculi *axillares et terminales, ebracteati, fructiferi erecti. Br.*

Specific Character and Synonyms.

TORENIA* *scabra;* foliis lanceolato-ovatis serratis scabris, caule erecto pubescentulo, calyce 5-dentato æquali.

TORENIA scabra. *Graham, in Ed. Phil. Journ. Br. Prod. Fl. Nov. Holland, p.* 440.

TITTMANNIA scabra. *Spreng. Syst. Veget. v.* 2. *p.* 800.

DESCR. Annual? *Root* slender, tapering, having many branching, lateral fibres. *Stem* erect, with very short, harsh, slightly reflected pubescence at its base, perfectly glabrous above, channelled on two sides, alternating at the joints. *Leaves* lanceolato-ovate, acutely serrated, entire at the apex and base, subciliated, veined, scabrous along the veins behind, soft and subglabrous in front. *Inflorescence* a few-flowered terminal *cyme, peduncles* erect, without bracteas, stout. *Calyx* smooth, regular, five-parted, persistent,

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* Named after OLOF TOREEN, a Swedish Naturalist, and pupil of LINNÆUS, who published an account of his voyage to China.

sistent, segments acute, mucronulate, spreading in their upper half, closely imbricated below. *Corolla* one inch long, one inch across, lilac and white, (violet-purple in my specimens. *H.*) striated, glanduloso-pubescent, ringent, its limb dilated and spreading, crenate, the upper lip two-lobed, the lower three-lobed, of which the central lobe is the largest and emarginate; *tube* campanulate, dilated on its lowest side, somewhat flattened above, contracted and having two pits without on each side towards its base, again dilated as it covers the germen. *Stamens* didynamous; *filaments* distant, hairy near the base, adhering to the corolla nearly as far as the throat, there suddenly bent, the longer at right angles, the shorter at an angle of about 45°. The longer filaments projecting from each a clavate tooth at this angle, pass horizontally round the throat of the corolla, and meet under the stigma; the shorter having a much smaller tooth at the angle, pass obliquely upwards to the style, and meet below the others. *Anthers* bilobular, divaricating, lilac, at first free, afterwards cohering in pairs, and bursting along the front. *Stigma* exserted, of two ovate, subacute, diverging plates, the lower rather the largest. *Style* glabrous, filiform, slightly flattened near the stigma, as well as the filaments colourless, marcescent. *Germen* green, conical, somewhat furrowed in the sides, *ovules* very numerous, attached to a large, central receptacle. *Capsule* ovate, tumid, tipped by the persisting base of the style, bilocular, bivalvular, valves entire, dissepiment parallel to the valves, *seeds* very numerous, ovate, dotted.

Seeds of this very pretty plant* were sent from New Holland by Mr. FRASER last year, and communicated to the Botanic Garden, Edinburgh, both directly from himself and by Sir THOMAS BRISBANE, in October and November. They were marked "Ruellia, *sp. nov.* from the banks of the River Brisbane, Moreton Bay." *Graham.*

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* I think it scarcely accords sufficiently with the name or character of Mr. BROWN's T. *scabra,* to warrant its being with certainty united to that species. *H.*

Fig. 1. Corolla laid open to show the Stamens. 2. Calyx and Pistil. 3. Germen and Nectary. 4. Section of a Germen: *magnified.*

3105.

W.J.H del.

Pub. by S. Curtis, Glazenwood Essex. Oct.r 1, 1831

ALSTRŒMERIA NEILLII. MR. NEILL'S ALSTRŒMERIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AMARYLLIDEÆ.)

Generic Character.

Perianthium corollaceum, subcampanulaceum, sexpartitum, irregulare; laciniis duabus (v. tribus) interioribus tubuloso-conniventibus. *Stam.* 6, laciniis inserta, demum declinata. *Stigma* trifidum. *Caps.* trilocularis; loculis polyspermis.—Caulis *erectus, scandens aut volubilis, foliatus.* Flores *umbellati. Kunth.*

Specific Character and Synonym.

ALSTRŒMERIA *Neillii;* caule erecto flaccido folioso, foliis spathulatis obtusis glauco-pruinosis apice lateribusque reflexis integerrimis, petalis tribus exterioribus obovatis emarginatis æqualibus crenatis, interioribus paulo longioribus spathulatis subintegerrimis, pedunculis umbellatis bifloris. *Graham.*

ALSTRŒMERIA Neillii. *Gillies' MSS.*

DESCR. *Stems* simple, many from the same root, erect, flaccid, round, very leafy, subglauco-pruinose, especially towards the top, greener below. *Leaves* spathulate, about seven-nerved, central rib hardly prominent behind, except in the lower and narrower half, reflected at the point and sides, waved, glauco-pruinose, quite entire, callous at the margin, and particularly so at the apex. *Peduncles* three or four, forming a terminal *umbel,* two-flowered, dull purple, a little longer than the leaves, which are collected in the form of an involucre round their base. *Perianth: Segments* six, unequal, much attenuated, succulent, involute and ciliated at the base, each with three primary nerves, prominent behind, and two or four secondary nerves, scarcely reticulated; three outer segments equal, of a nearly uniform pale rose colour, rather darker in the middle of the outside, obovato-crenate, with a central, green, concave, callous point; three inner segments rather longer than the outer, spathulate with a green callous apex, and oblong deep rose-coloured spots on their upper half, the lowest is rather the shortest of the three, nearly flat and arched backwards; the two others project in the centre of the flower, and are straight, except near the apex, where they are bent back, and immediately below this point are marked by a broad, transverse, yellow band, nectariferous at the base. *Stamens* laid along the lower petal till the pollen is mature, when they become straight, and nearly parallel with the two central petals, which they almost equal in length: *filaments* rose-coloured, slightly tapering, pubescent at the base; *Anthers* greenish-rose-coloured, flattened, and, as in the other species when the loculaments burst, becoming flattened in the opposite direction; *Pollen* reddish, granules very small and oblong. *Stigma* trifid, rose-coloured as well as the prismatic *style*, which is only green at its persisting base. *Germen* trilocular, purple, obovato-turbinate, covered with minute, shining tubercles, ribs strong and prominent. *Ovules* numerons, attached in two rows, within each loculament, to the central receptacle.

This extremely handsome plant flowered, for the first time in this country, in Mr. P. NEILL's greenhouse, at Canonmills *, near Edinburgh, June 1831. Mr. NEILL is uncertain to whom he is indebted for the plant, but as seeds of ALSTRŒMERIA *pallida* were sent in the same packet, and as we possess specimens of this, collected by Dr. GILLIES at Los Ojos de Agua, it is probable A. *Neillii* was from him also. Dr. GILLIES inclines to the same opinion, and believes that this species is the one which at Mendoza is called *Pelegrina*, and of which he has various individuals in his Herbarium. It is possible that these are identical, though the segments of the perianth are in the native specimens perfectly entire, the inner ones lanceolate, not spathulate, the outer acute, not emarginate, and the peduncles single-flowered. Dr. GILLIES found it on both sides of the Cordillera of the Andes, between Chili and Mendoza. I alluded to it in my description of ALSTRŒMERIA *pallida*, in the Edinburgh New Philosophical Journal for September, 1829, and conjectured, that when it flowered, it might prove to be a variety of it. The inflorescence, habit, and colouring give support to this conjecture; and our increasing acquaintance with South American Genera throws increasing scepticism upon all enquiries as to the natural boundaries of species; but till the period arrives when a revision of the whole Genus ALSTRŒMERIA shall warrant a considerable reduction of its species, the characters above noted may be deemed sufficient, as giving to this form a better title to a specific name than several others, which are now held to be sufficiently distinct. *Graham.*

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* This very interesting establishment has recently sustained a great loss in the removal of the gardener, ALEXANDER SCOTT, whose professional talent and patient industry have been transferred to a situation of more extensive usefulness. He has been appointed foreman to Mr. KNIGHT's Exotic Nursery, Chelsea, a situation for which he is especially fitted by his quiet, unassuming manners, and uniformly steady conduct. *Graham.*

Fig. 1. Lower Leaf. 2. Outer, and 3, inner Petal: *nat. size.*

3106.

Pub. by S. Curtis, Glazenwood Essex. Octr. 1.1831

Swan Sc.

(3106)

RHODODENDRON LAPPONICUM. LAPLAND RHODODENDRON.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—ERICEÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* infundibuliformis 5-lobus. *Stam.* 5—10 declinata : *antheris* apice biporosis. *Capsula* 5-locularis, 5-valvis, ab apice dehiscens, valvarum marginibus inflexis dissepimenta formantibus : *Receptaculum* centrale 5-angulare. *Semina* membrana involuta.

Specific Character and Synonyms.

RHODODENDRON* *Lapponicum ;* fruticosum, ramosum, procumbens, ramis divaricatis, floribus umbellatis 5—8-andris, corollis rotato-infundibuliformibus, foliis oblongis obtusis rigidis foveolato-punctatis subtus discoloribus lepidotis marginibus reflexis.

RHODODENDRON Lapponicum. *Wahl. Fl. Suec. p.* 249. *Spreng. Syst. Veg. v.* 2. *p.* 293. *Graham, in Ed. N. Phil. Journ. Oct.* 1830.

AZALEA lapponica. *Linn. Fl. Suec. p.* 64. *Sp. Pl. v.* 1. *p.* 214. *Fl. Lapp. (ed. Smith,) p.* 59. *t.* 6. *f.* 1. *Pall. Fl. Ross. v.* 2. *p.* 52. *t.* 70. *f.* 1. *Fl. Dan. v.* 6. *t.* 906. *Willd. Sp. Pl. v.* 1. *p.* 832. *Pers. Syn. Pl. v.* 1. *p.* 212.

DESCR. An evergreen, procumbent *shrub,* about six inches long ; *branches* at length divaricated, round, grey, when young red, obscurely pubescent, warted. *Leaves*

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* From ροδον, *a rose,* and δενδρον, *a tree,* from the usual colour of the flowers of these shrubby plants.

three lines long, four lines broad, petioled, divaricated, elliptical, veinless, reflexed at the edges, dark green above, paler and at last yellowish beneath, thickly sprinkled on both sides with hollow dots, which are covered with an umbilicated, persisting, yellowish scale, obscurely channelled along the middle rib, which is somewhat prominent behind. *Flowers* terminal, umbellate, about five or six in the umbel, of which three expand at a time, surrounded with large, concave, imbricated, brown, dotted scales or bracteas. *Peduncles* as long as the bracteas, round, dotted. *Calyx* small, five-toothed, blunt, ciliated, thickly covered with yellow scales. *Corolla* (three-fourths of an inch across,) crimson, rotato-funnel-shaped, five-cleft, segments blunt, unequal, waved, the *throat* hairy and nectariferous, nectariferous pore very indistinct. *Stamens* five to eight, equal in length to the corolla, scarcely declined ; *filaments* adhering to the base of the germen, of the same colour as the corolla, hairy near their base ; *anthers* brown, attached by the back, bilocular, each cell depressed in the middle as by a longitudinal suture, but bursting by a pore at its upper extremity ; *pollen* yellow. *Stigma* red-brown, capitate, five-lobed, lobes depressed. *Style* round, red, glabrous, longer than the stamens, once or twice geniculated. *Germen* green, thickly covered with yellow scales, similar to those on the calyx, conical, obscurely five-lobed, ciliated round the base of the style, five-celled ; placentæ linear, extending to the parietes, covered with innumerable *ovules*.

The enterprise of Mr. CUNNINGHAM has been rewarded by having first in Britain brought into flower ANDROMEDA *hypnoides** and RHODODENDRON *Lapponicum*. These two interesting plants may be seen under the same hand-glass, in the nursery at Comely Bank, near Edinburgh: they were both brought from Canada by Mr. BLAIR, in 1825. The subject of the present description flowered in July, 1830. *Graham.*

RHODODENDRON *Lapponicum* inhabits the alpine ridges of the low grounds in the extreme Arctic regions of Europe, Asia, and America. The bruised leaves are fragrant, yielding a smell, which PALLAS compares to that of Turpentine. The flowers are exceedingly beautiful.

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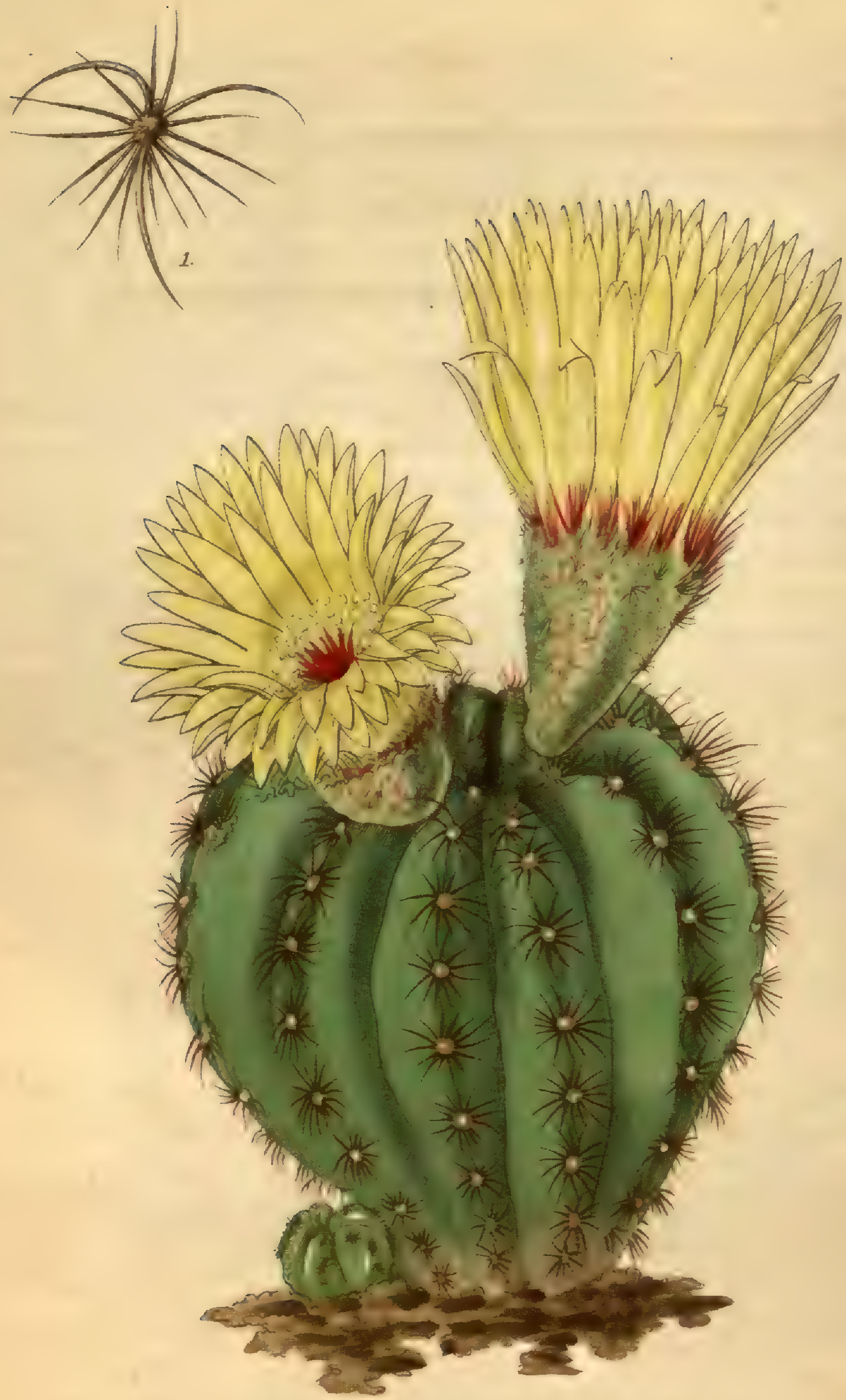
* Figured at Tab. 2936 of this work.

Fig. 1. Flower, with its Bracteas. 2. Calyx, Stamens, and Pistil. 3. Anther. 4. Germen. 5. Upper, and 6, Under side of a leaf:—more or less *magnified.*

3107.



W.J.H. delt.

Pub by S. Curtis Glazenwood Essex. Octr 1 1831.

(3107)

ECHINOCACTUS OTTONIS. MR. OTTO'S ECHINOCACTUS.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Sepala numerosa imbricata basi ovarii adnata in tubum brevissimum concreta, exteriora involucriformia, intima petaliformia. *Stam.* numerosa. *Stylus* filiformis apice multifidus. *Bacca* sepalorum reliquiis subsquamata. *Cotyledones* nullæ ?—Frutices *simplicissimi carnosi ovati aut globosi melocactoidei costati aphylli costis tuberculis confluentibus quasi formatis, dorso aculeorum fasciculos gerentibus.* Cephalium *seu* spadix *nullus.* Flores *e fasciculis aculeorum ad apices costarum orti, similes floribus* Cerei *sed tubo vix ullo donati.*

Specific Character and Synonyms.

ECHINOCACTUS * *Ottonis;* caule subcylindrico, costis 12 obtusiusculis, spinis mediis 3—4-longioribus erectiusculis tenuibus fuscis, reliquis 10—14 tenuissimis patentibus longe acuminatis subserrulatis cuspidatis.

ECHINOCACTUS Ottonis. *Link et Otto, Gew. Bot. Gart. Berl. t.* 16.

CACTUS Ottonis. *Lehm. Ind. Sem. Hort. Hamb.* 1827, *p.* 16. *Ind. Schol. in Gymn. Hamb.* 1828, *p.* 11.

DESCR. *Stem,* in our plant, three to four inches in height, orbiculari-cylindrical, contracted at the base, where it produces offsets, marked with about twelve vertical, deep furrows, the ridges between the furrows obtuse, studded with rather closely set small tufts of reddish wool, from which arise three or four rather strong spines, of a deep purplish-brown colour, which stand forward, and are sometimes curved, and several lesser pale-coloured spreading ones. The longest and strongest spines are from the summit of the stem ; but the largest of them rarely exceed half an inch in length, and their bases are the most woolly. From the summit of the stem arise one to three or four sessile flowers, large in proportion to the size of the plant, and of a delicate lemon colour. *Calyx* tapering at the base, imbricated with scales, which are clothed with reddish or ferruginous wool, mixed with long, slender, dark red spines. *Petals* numerous, erecto-patent, linear-acute, obscurely and irregularly serrulated, aristate, of a rather thin and scariose texture. *Stamens* about half as long as the petals, yellow. *Style* equal to them in length, bearing a bright red *stigma,* with about twelve to fourteen rays.

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* From εχινος, *a hedgehog,* and κακτος, *cactus.*

This very beautiful species of ECHINOCACTUS was first described by Dr. LEHMANN, (to whom our Glasgow Garden is indebted for the possession of the plant,) and afterwards was well represented in LINK and OTTO's excellent publication on the plants of the Berlin Garden. It is a native of Brazil : and like all its tribe should be cultivated in a warm and dry stove, and the pots kept well drained from moisture. It blossomed with us in July, 1831.

Our collections are now, by the zeal of the Botanists in the New World, beginning to be well stocked with the species of this curious and highly interesting family. At one time, the hotter parts of that vast continent were alone supposed to afford them : but from the lat. of Mendoza, (33° South,) and at a considerable elevation above the level of the sea, Dr. GILLIES has supplied the Glasgow and other Botanic Gardens, with no less than twenty-two species ; all gathered within the distance of a morning's ride from that city ; while in North America, Messrs. DOUGLAS and DRUMMOND met with *Cactuses* between the parallels of 40° and 50°, in the Rocky Mountains : whereas, Professor SCHOUW has scarcely extended the region of the tribe beyond the tropics.

Fig. 1. Cluster of Spines : *magnified.*

3108.

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W. J. H. del.

Pub by S. Curtis Glazenwood Essex. Oct. 1. 1831.

Swan sc.

NIEREMBERGIA GRACILIS. SLENDER NIEREMBERGIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SOLANACEÆ.)

Generic Character.

Cal. tubulosus, 5-fidus. *Cor.* subhypocrateriformis, tubo longissimo, tenui; limbo 5-lobo, plicato (sub-) æquali. *Stam.* 5, exserta. *Filam.* inferne connata (an semper?) *Antheræ* longitudinaliter dehiscentes. *Stigma* subinfundibuliforme, bilobum, (*nobis* laterale transverse oblongum utrinque acuminatum recurvum). *Capsula* in fundo calycis persistentis bilocularis, bivalvis; *dissepimentum* valvulis parallelum, demum liberum; *placentæ* dissepimento intimæ adnatæ.—Caules *lignosi aut herbacei, filiformes, procumbentes et sæpe repentes.* Folia *sparsa, solitaria, interdum gemina, integra et integerrima.* Flores *extraaxillares aut oppositifolii, solitarii, subsessiles, albi. Kunth.*

Specific Character.

NIEREMBERGIA[*] *gracilis;* caulibus herbaceis erectiusculis foliisque anguste lineari-subspathulatis pubescentibus, capsula polysperma.

DESCR. *Stems* several, as it appears, from the same root, six to eight inches high, herbaceous, rounded, downy, branching upwards, with the branches alternate, very slender. *Leaves* small, scarcely more than half an inch long, narrow-linear, approaching to spathulate, rather obtuse,

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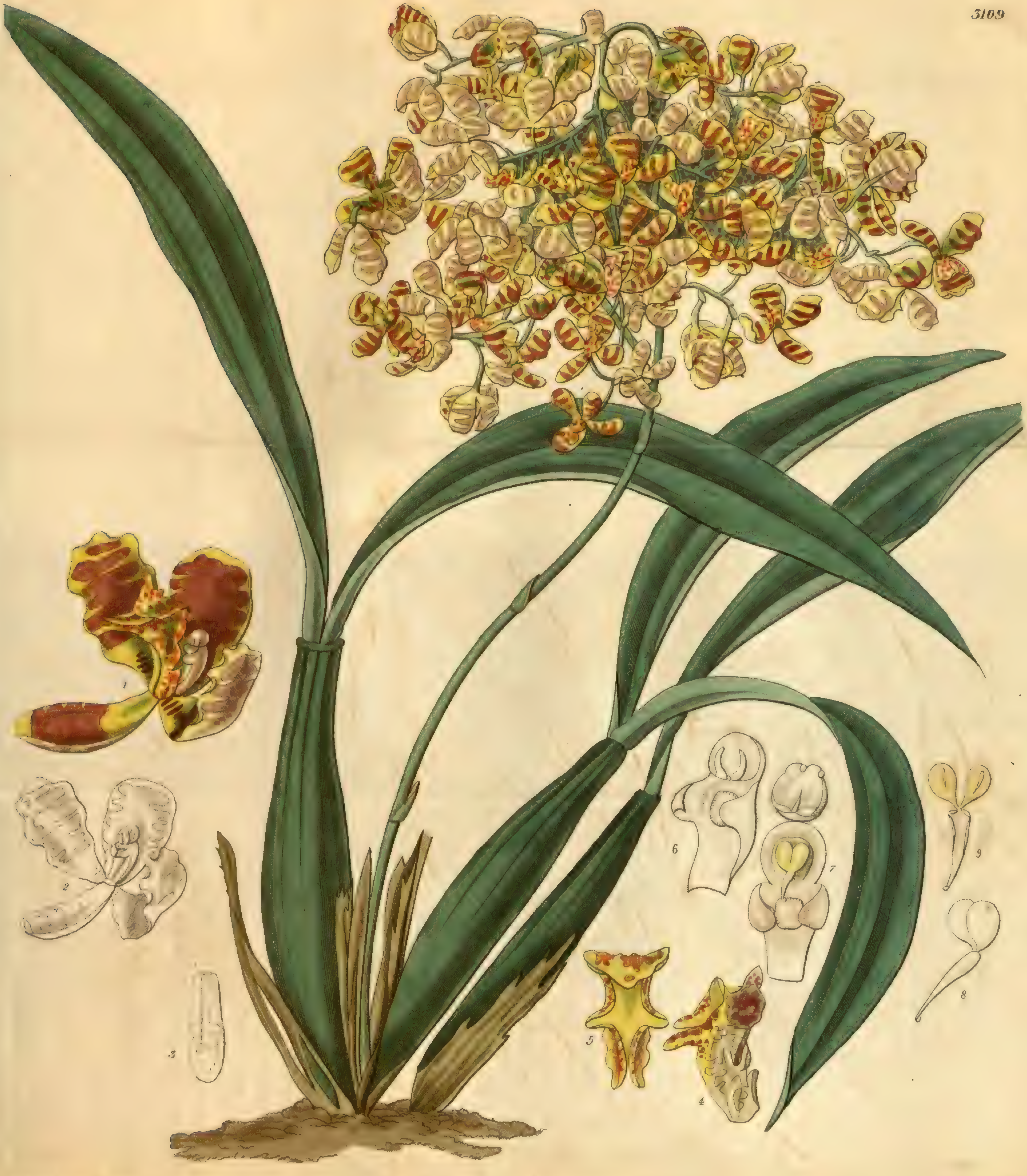
[*] In compliment to JOHN EUSEBIUS NIEREMBERG, a Spanish Jesuit of the sixteenth century, who wrote a " History of Nature."

pale glaucous-green, obscurely costate, downy, all of them alternate and scattered, except the lowermost, which appear almost whorled, the uppermost ones on the young branches subsetaceous. *Flowers* terminal on the young branches. *Calyx* with its tube attenuated at the base, white and membranaceous, with ten green, prominent ribs, scarcely downy; *limb* of five linear, spreading, green and somewhat foliaceous, slightly downy segments. *Corolla: tube* much exserted, very long and exceedingly slender; the *limb* spreading, convex, unequally five-lobed, white, streaked with purple, having a yellow eye where it is inserted on the tube: the *lobes* rounded, obtuse. *Stamens* five. *Filaments* rather short, inserted in the mouth of the tube, scarcely connate, two in front of the style and three behind it, somewhat equal, two longer than the rest, and one (the centre of those behind the style,) smaller, curved at the apices. *Anthers* roundish, reniform, two-lobed, two-celled, the cells opening laterally by a vertical fissure. *Style* as long as the stamens. *Stigma* transverse, anterior, oblong, acuminate at each extremity and recurved, green, viscid. *Germen* ovate, dotted, two-celled, cells with many *ovules* attached to the receptacles of the dissepiment.

The Genus NIEREMBERGIA, characterized by the extremely slender tube of its corolla, inhabits exclusively the New World, and appears to have an extensive range there; one species of those hitherto described being a native of Peru (N. *repens,* R. and P.) another of Mexico, (N. *angustifolia,* H. and K.) and a third of Monte Video, (N. *pubescens,* SPRENG.). To these, I have the pleasure of adding a fourth, a native, like the last, of the vicinity of the Uraguay, but in botanical character nearly approaching the Mexican plant. From that it differs in the pubescent stems and leaves, as well as in the structure of the stamens and stigma; so much so, that I should almost be inclined to consider them generically distinct; only that the figure and description of N. *angustifolia* being made from dried specimens, the learned authors might be deceived in the appearance of such minute parts, and thus the difference may be accounted for.

Our plants were raised from seeds sent from Buenos Ayres, by Mr. TWEEDIE, and promise to bear the open air in summer. They flowered in July, 1831.

Fig. 1. Leaves. 2. Calyx. 3. Front view of Stamens and Style. 4. Back view of ditto. 5. Anther. 6, 7. Front and back view of the Stigma. 8. Germen. 9. Section of ditto.—*Magnified.*



[illegible] Harrison del.

Pub. by S. Curtis, Glazenwood Essex Nov. 1. 1831

Swan Sc.

ONCIDIUM BICORNUTUM. TWO-HORNED ONCIDIUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum explanatum, lobatum, basi bituberculatum. *Petala* patentia (2 antica nunc connata). *Columna* alata. *Massæ Pollinis* 2, postice bilobæ : medio affixæ processu communi stigmatis. *Br.*

Specific Character.

ONCIDIUM *bicornutum* ; bulbo elongato diphyllo, scapo radicali, panicula densa, perianthio tetraphyllo foliolis obovatis subæqualibus, labello angulato-lobato lateribus apiceque reflexis, disco tuberculato, columna pubescente, anthera cornubus duobus mollibus reflexis.

DESCR. The *bulbs* of this singular and beautiful species of ONCIDIUM are four to five inches long, subcylindrical, furrowed, clustered and clothed at the base with lacerated, brown, sheathing scales, at the extremity bearing rarely one, mostly two, linear-lanceolate, coriaceous, obscurely striated, acuminated leaves. *Scape* radical, terete, jointed and bracteated, rising a little above the leaves, and bearing a comparatively large and dense *panicle,* which, apparently from the weight of the numerous flowers, curves gracefully like an ostrich-feather, the branches somewhat distichous, each ramification and the base of each flower bracteated. *Perianth* deep yellow, with transverse spots and bars of a dark-red purple-brown colour, almost wholly yellow at the

base, in four pieces or leaflets, which are nearly equally obovato-cuneate, waved, the lateral ones especially, the lowermost one the smallest and narrowest, yet formed of the two lower leaflets of the outer series, and obscurely two-nerved. *Labellum* erect, of a very singular form, and difficult to be explained by words. It appears smaller than the rest of the pieces of the perianth, but these arise from the margins and extremity, which are waved and angled, being singularly reflexed; whilst the upper side presents many wrinkles and tubercles, yet even these are placed with regularity, so that every labellum is alike in its angles and projections and depressions: the colour is yellow, mottled and spotted with purple-red. *Column* pale reddish-yellow, almost white, downy, semicylindrical, shorter than the column, upwards expanding into two projecting wings: beyond this the column rises into an orbicular receptacle for the hemisphærical anther, which is also downy, and which bears on its anterior edge, two soft, recurved awns or horns, such as I have never seen in any of this family. When the anther-case is removed, two obovate, wavy, yellow *masses* of *pollen* with a cleft at their posterior side are seen attached to an attenuated, narrow, membrane or filament, bearing a small gland at its base. *Germen* linear-clavate, scarcely twisted.

This is another of the many highly interesting Orchideous plants for the possession of which our country is indebted to Mrs. ARNOLD HARRISON of Aigburgh, near Liverpool, and to her brother —— HARRISON, Esq. of Rio. It was discovered by that gentleman in woods, sixty miles inland from that capital, and communicated to his sister, who is no less successful in cultivating, than he is in detecting the many novelties of the tribe which the forests of Brazil afford. It was sent to England in 1830, and in June, 1831, produced the panicle of flowers here represented, done in part from the plant itself, and in part from a drawing sent by Mrs. HARRISON.

Fig. 1. Flower. 2. Flower, from which the Lip has been removed. 3. Exterior view of the lower of the four Segments of the Perianth. 4, 5. Anterior and posterior views of the Lip. 6. Column, with its Anther attached. 7. Column, with the Anther-Case forced back, to show the Pollen-Masses. 8. Upper view of the Pollen-Masses. 9. Posterior view of ditto.—*Magnified.*

3110.

W. J. H. del.

Pub by S Curtis Glazenwood Essex [illegible] 1. 1831

Swan Sc.

LANTANA NIVEA, *var.* mutabilis. WHITE-FLOWERED LANTANA, Changeable *var.*

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—VERBENACEÆ.)

Generic Character.

Cal. brevissimus, obsolete dentatus. *Cor.* tubulosa, limbo inæqualiter bilobo. *Stam.* inclusa. *Drupa* baccata, 1-pyrena, pyrene biloculari, 2-spermo, rima loculis interposita. *Spr.*

Specific Character and Synonyms.

LANTANA *nivea;* foliis oppositis ovatis acuminatis scabris in petiolum attenuatis, capitulis hemisphæricis, bracteis linearibus tubo brevioribus, caule frutescente aculeato.

LANTANA nivea. *Willd. Enum. p.* 631. *Vent. Malm. p.* 8. *t.* 8. *Bot. Mag. t.* 1946.

(β.) floribus flavis demum roseis. *(Tab. nostr. t.* 3110.*)*

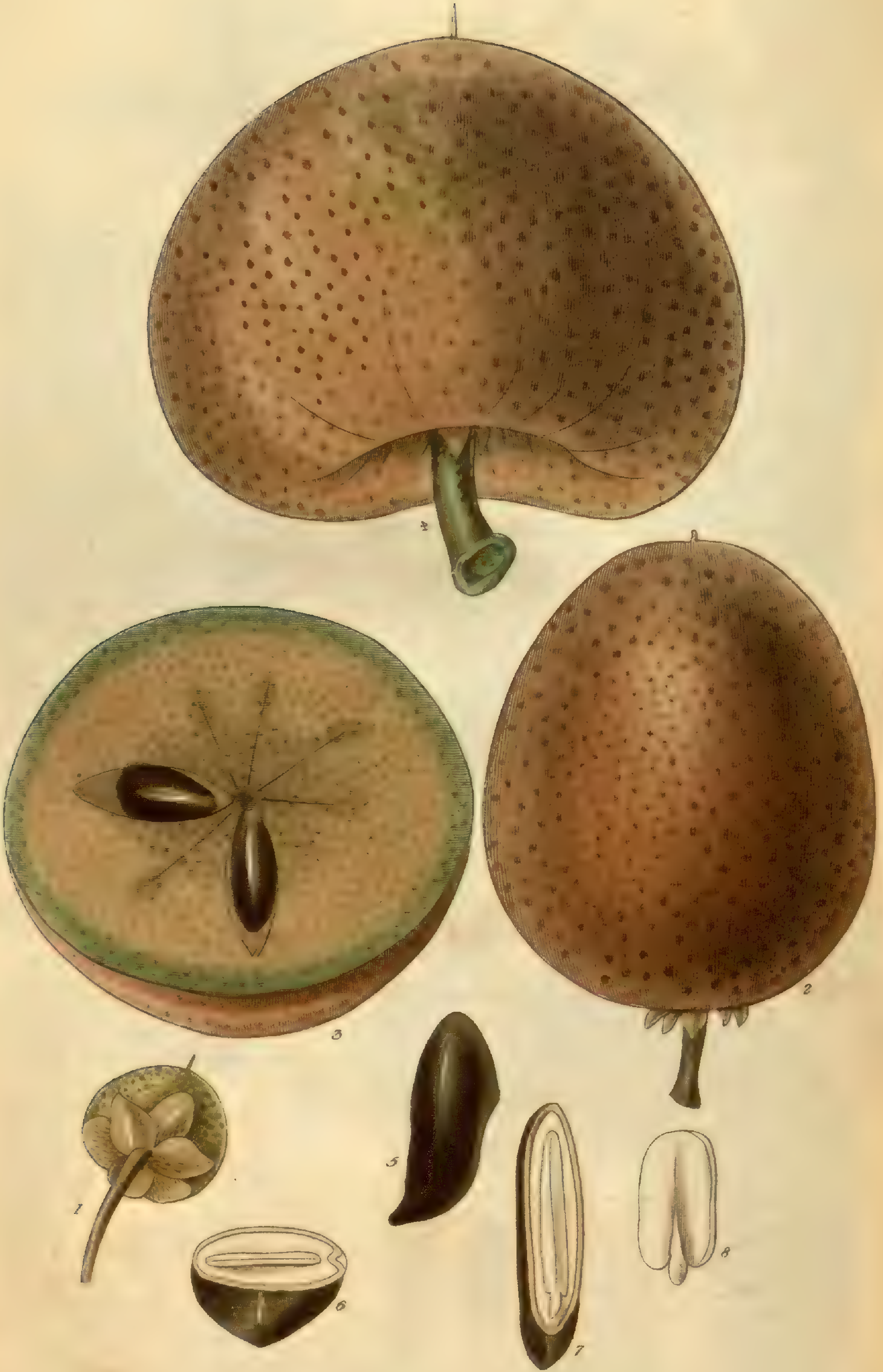
DESCR. A *shrub,* four or five feet high, branched, the *branches* four-sided, glabrous, but furnished with strong, short, often curved aculei, set principally upon the angles. *Leaves* large, of a deep green colour, scabrous, ovate, acuminate, obtusely serrated, much nerved, diffusing an unpleasant odour, at the base gradually tapering into a rather long *petiole.* From the axils of the upper leaves, the *peduncles* arise, equal in length with the leaves or sometimes longer, four-sided and slightly aculeated, rarely branched, bearing a large and beautiful head of changeable *flowers* at the extremity. These flowers are collected upon an oblong, fleshy *receptacle,* which has sometimes a pair of opposite small leaves at the base. *Bracteas,* one to each flower, shorter than the tube, linear, the outer ones broader, almost lanceolate. *Tube* somewhat curved, slightly downy, *limb* spreading, waved, unequally five-lobed, the margins more or less recurved, at first yellow with an orange eye, then becoming rose-coloured with an orange eye, finally entirely rose-coloured. *Calyx* small, obscurely four-lobed. *Stamens* four, inserted nearly at the middle of the tube. *Filaments* short. *Anthers* rounded, brown. *Pistil*: *Germen* ovate: *Style* about half the length of the tube: *Stigma* capitate, oblique.

Our Glasgow Botanic Garden is indebted for this handsome and most desirable inhabitant of the stove to Mr. Marnock, of Britton Hall, by whom it was communicated, under the very appropriate name of L. *mutabilis*. The comparatively large heads of flowers are at first wholly yellow, with a deeper eye; the outer ones then first gradually become rose-coloured, the orange eye for a time remaining, when that changes likewise, and at length the whole flowers are a delicate rose colour. Of what country it is a native, I am ignorant; but it possesses all the essential character of L. *nivea*, and hence I have considered it as a variety of that species, although, perhaps, the white-flowered state should rather be considered a variation from this. L. *nivea* is stated in Bot. Mag. t. 1946, to be an East Indian plant;—a native of the West Indies according to Sir J. Smith, in Rees's Cycl. From L. *aculeata* it differs in its far more strongly aculeated and glabrous stems and branches. Its flowers appear in May and June, and continue for a considerable length of time.

Fig. 1. Young Flower. 2. More advanced ditto. 3. Stamens. 4. Calyx. 5. Pistil:—*magnified.*

3111.

Rev. L. Guilding. del. Pub. by S. Curtis. Glazenwood Essex. Nov. 1 1831



Rev. L. Guilding del.

Pub. by S. Curtis, Glazenwood Essex Nov. 1. 1831.

(3111 3112)

ACHRAS SAPOTA. COMMON SAPOTA. BULLY-TREE.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—SAPOTEÆ.)

Generic Character.

Cal. 6- (raro 5-) partitus. *Cor.* 6-fida. *Stamina* 6 *sterilia* squamæformia, cum totidem fertilibus alternantia. *Ovarium* 12—6-loculare. *Pomum* 12—6-spermum. *Nuces* compressæ, osseæ, ventre longitudinaliter deraso. *Semen* albuminosum. *Br.*

Specific Character and Synonyms.

ACHRAS* *Sapota;* foliis oblongo-ellipticis acutis, pedunculis calycibus petiolisque ferrugineo-pubescentibus, filamentis sterilibus oblongis obtusis, ovario pluri-loculari.

(α.) fructu elliptico seu ovato.

ACHRAS Sapota. *Linn. Sp. Pl. p.* 470. *Willd. Sp. Pl. v.* 2. *p.* 224. *Jacq. Am. p.* 57. *t.* 41. *Ait. Hort. Kew. ed.* 2. *v.* 2. *p.* 312. *Spreng. Syst. Veget. v.* 2. *p.* 132.

ACHRAS fructu elliptico scabro majore. *Brown, Jam. p.* 200. *t.* 19. *f.* 3.

(β.) fructu subrotundo subdepresso. (Sappadilla or Naseberry tree.)

ACHRAS Sapota, β. *Jacq. Am. l. c. t.* 41, β.

ACHRAS Zapotilla. *Browne, Jam. p.* 200.

ANONA foliis laminis, &c. *Sloane, Jam. v.* 2. *p.* 171. *t.* 230.

ANONA maxima, &c. *Sloane, Jam. v.* 2. *p.* 172. *t.* 169. *f.* 2.

DESCR. This, according to SLOANE, is one of the largest trees in the mountainous woods of the island of Jamaica. JACQUIN says the height varies from ten to fifty feet: Mr. GUILDING states it from thirty to forty feet. From every part of it a tenacious, viscid, white juice is distilled. The *wood* is white, the *bark* brown. *Branches* numerous, forming a spreading top. *Leaves* numerous, almost all of them placed in clusters at the extremity of the younger branches, three to four inches long, coriaceous, shining, elliptical-oblong, acute, glabrous, the midrib prominent behind, the lateral

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* From the Greek *αχρας, a wild pear,* from some resemblance in the fruit to that of a pear.

nerves numerous but indistinct: the petioles are more or less downy. *Peduncles* from the axils of the terminal leaves, solitary, single-flowered, about an inch long, frequently drooping, rather thick and downy. *Calyx* divided nearly to the base into six, rather large, erect, ovate, coriaceous segments, of which the three outer are clothed with dense, ferruginous hairs, the three inner much paler coloured. *Corolla* of one petal, tubular, rather longer than the calyx, white, cut one-third of the way down into six oblong obtuse segments: within (alternating with these segments, and nearly equal to them in size and shape,) are six scales, abortive stamens, often notched at the point. Perfect *stamens* six. *Filaments* short, curved upwards. *Anthers* ovato-oblong, opening with a longitudinal fissure at the sides of the cells. *Pistil: Germen* subglobose, densely hairy. *Style* exserted. *Stigma* obtuse, obscurely lobed. *Berry* as large as a moderately-sized apple, often tipped with the persistent *style*, of a dirty brown colour, mottled and spotted with a deeper hue, in α elliptical, in β more or less rounded or compressed; having at the base the reflexed segments of the calyx, eight to ten- (seven to thirteen, JACQ.) celled, many of the cells frequently abortive. In the inner angle of the cells is a solitary, rather large, laterally compressed, glossy, blackish-brown *seed*, having at the inner angle a long, pale, linear scar; the lower extremity is frequently recurved. *Albumen* white, fleshy, with the flattened embryo in the centre: the radicle pointing downwards.

Mr. GUILDING compares the appearance of the fruit of this tree to that of an old and decayed potato: yet he observes that, it is the most luscious of the West Indian fruits; but so abounding in an acrid milk, that it cannot be eaten until it is completely ripe, or according to French authors, until it almost begins to be putrid. It is there served at all tables and generally esteemed.

The flowers are, according to JACQUIN, inodorous, but Mr. GUILDING remarks, that they yield a smell resembling that of brass or copper, and far from agreeable. The general form of these blossoms when in perfection is campanulate; but when fertilization is effected, the top of the flower closes upon the style, and it becomes ovato-acuminate in its circumscription.

The timber yielded by this tree is considered of great service in the making of shingles to corn-houses. The bark is astringent, and commonly known by the name of CORTEX *jamaicensis*, according to BROWN, being frequently administered to the negroes in lieu of the Jesuit's Bark, and found to answer all the purposes of that medicine. The seeds are aperient and diuretic.

It is a native of the West Indies and abundantly cultivated throughout all the hot parts of South America for the sake of its fruit. In our stoves it was cultivated so long ago as 1731, but it does not appear ever to have flowered with us. The figures here given are taken from beautiful drawings made by Mr. GUILDING in St. Vincent. To the same Naturalist I am indebted for many observations on the tree.

Tab. 3111. Fig. 1. Flower. 2. Corolla. 3. Corolla laid open. 4. Pistil. 5. Stamen:—*magnified.*

TAB. 3112. Fig. 1. Very young Fruit. 2. Fruit of var. α. 3. Ditto section of ditto. 4. Fruit of var. β:—*nat. size.* 5. Seed. 6. Transverse Section of ditto. 7. Vertical Section of ditto. 8. Embryo:—*magnified.*

W.J.H. delt.

Pub by S. Curtis Glazenwood Essex Nov 1 1831.

Swan.

SALPIGLOSSIS INTEGRIFOLIA. ENTIRE-LEAVED SALPIGLOSSIS.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SOLANEÆ. *Don.*)

Generic Character.

Cal. 5-fidus seu 5-partitus, subinæqualis. *Cor.* infundibuliformis 5-loba. *Filamentum* quintum sterile (nunc antheriferum). *Stylus* apice dilatatus. *Stigma* truncatum, transversum. *Capsula* bi-locularis, dissepimento valvis parallelo. *Semina* punctato-scabra.

Specific Character.

SALPIGLOSSIS *integrifolia;* foliis ovato-lanceolatis in petiolum attenuatis, floribus solitariis axillaribus, calyce profundo 5-partito, corollæ lobis integris.

DESCR. *Stem* herbaceous, six to ten inches high, somewhat procumbent at the base, then erect, slightly branched, rounded, every where clothed with glandular hairs. *Leaves* alternate, rarely opposite, those from near the root almost exactly ovate, the rest approaching to lanceolate or oblong, all, but especially the younger ones, more or less clothed with glandular and rather fetid hairs, rather obtuse at the point, quite entire at the margins, tapering gradually below into a footstalk, which has often, at its base, a purplish tinge. *Peduncles* principally confined to the uppermost leaves, solitary, about an inch long, glandular, single-flowered. *Calyx* three-fourths of the length of the tube of the corolla, deeply five-partite, the segments linear, increasing in size, after the corolla has fallen away, and inclined upwards. *Corolla* more than an inch long, broadly infundibuliform:

buliform: the tube dark bluish-purple, hairy, and glandular, the limb nearly equal, oblique, five-lobed, the lobes rounded entire, obtuse, of a rich crimson purple. *Stamens* five, included, four didynamous, the central one antheriferous. *Filaments* quite glabrous, purplish. *Anthers* blue, two-lobed, the lobes at first approximate, opening at the outer margins, at length spreading. *Germen*, small, ovate, green, imbedded in a fleshy yellow gland or ring, with two teeth. *Style* slender, filiform, green, dilated upwards, and bearing an orbicular green, peltate, flat *stigma*, marked with a transverse line. *Capsule* ovate, small, two-celled, two-valved, the valves sometimes bifid at their points. *Seeds* numerous, attached to a receptacle on each side the dissepiment, oval, approaching to reniform, studded with numerous, raised points, arranged in lines.

This new and most distinct species of SALPIGLOSSIS was raised from seeds sent in the autumn of 1830, by Mr. TWEEDIE of Buenos Ayres, to the Glasgow Botanic Garden, where the young plants, placed in a warm exposure in the open air produced their richly coloured blossoms in July of the following year (1831). It promises to be a most valuable addition to our semi-hardy plants: but whether an annual or otherwise, I am not at present able to say. I have specimens of the same plant sent to me by Mr. JAMES BAIRD of Buenos Ayres, who gathered them upon the Uraguay*, near the Rio Negro.

Mr. DON has justly referred the present Genus to SOLANACEÆ. It has the same heavy and fetid smell, though not in a very powerful degree, as many others of that family.

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* From the same source, and from the same country, I possess another species of SALPIGLOSSIS, which may be thus named and distinguished:

S. *linearis*; foliis (parvis) linearibus integerrimis glandulosis, paniculis paucifloris terminalibus foliosis, calyce 5-fido, corollæ lobis integris. HAB. *Banks of the Uraguay, Mr. James Baird.*

Fig. 1. Root Leaf, *nat. size*. 2. Flower. 3. Stamen. 4. Anther burst. 5. Pistil. 6. Section of the Germen. 7. Summit of the Style and Stigma. 8. Capsule. 9. Seed :—more or less *magnified*.

[illegible] H del.

Pub. by S. Curtis Glazenwood Essex Novr. 1. 1831

[illegible]

(3114)

CENTROCLINIUM REFLEXUM. REFLEXED-SCALED CENTROCLINIUM.

Class and Order.

SYNGENESIA SUPERFLUA.

(Nat. Ord.—COMPOSITÆ. DIV. LABIATIFLORÆ.)

Generic Character.

Involucrum subglobosum vel cylindraceum arcte imbricatum. *Flosculi disci* tubulosi, 5-dentati, hinc profundius fissi; *radii* 7—12 bilabiati, labio *interiore* minutissimo bipartito erecto (dein revoluto ?) exteriore longissimo trifido. *Antheræ* biaristatæ. *Stigma* integrum. *Pappus* inæqualis, scaber. *Receptaculum* spinulis mollibus hispidum. —Herbæ ? v. Frutices *Peruvianæ*. Folia *petiolata subtus albo-tomentosa*. Pedunculi *solitarii axillares vel terminales uniflori*. Flores *fragrantes speciosi:* Radius *purpureo-roseus*.

Specific Character.

CENTROCLINIUM[*] *reflexum;* herbaceum ? foliis ovato-lanceolatis grosse dentatis, pedunculis bracteato-setaceis, involucri squamis apice reflexis.

DESCR. This appears to be an annual plant from a foot and a half to two feet in height, branched, the *branches* woolly. *Leaves* spreading, two to three inches long, ovato-lanceolate, acute, coarsely toothed, gradually tapering into a petiole, woolly and white beneath, above cobwebby, but at length nearly glabrous. *Peduncles* solitary, terminal, or from the axils of the upper leaves, four to five inches long, woolly, and bearing many subulato-setaceous bracteas,

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[*] From *κεντρον, a sharp point, and κλινη, the receptacle,* from the hard, rigid spinules observed by the anther.

teas, single-flowered. *Flowers* large, handsome, fragrant. *Involucre* broadly ovate or oval, imbricated with numerous subulate scales, their apices all remarkably reflexed. *Florets* of the *disk* deep yellow, very prominent. *Corollas* tubular, cleft more deeply on the interior side, with the five linear oblong teeth somewhat unilateral. *Anthers* deep yellow, exserted, biaristate. *Germen* cylindrical. *Style* yellow, somewhat clavate, entire. *Pappus* of many unequal hairs, the outer being shorter and slenderer, the inner longer, frequently darker-coloured; all of them scabrous. *Florets* of the *ray* nine to twelve, rose-purple, two-lipped, the inner lip very minute, of two subulate segments, erect, probably in a more advanced state reflexed; outer one very long, linear, three-toothed, externally downy. *Anthers* small, abortive. *Germen, style, stigma,* and *pappus* as in the florets of the disk. *Receptacle* plane, set with small, soft, erect spinules.

Among the many interesting plants raised last year (1830) from the Peruvian seeds liberally communicated to the Glasgow Botanic Garden by our valued friend, Mr. Cruckshanks, are two species of the family of Compositæ, and of the division Labiatifloræ, agreeing in so many points with Mr. Don's Genus Centroclinium (Linn. Trans. v. 16, p. 254,) that I cannot suppose they are other than the same: yet in the nature of the spinules of the receptacle there is a remarkable difference; for whereas Mr. Don describes them as harsh and rigid aculei (whence he has derived the Generic Name); in our plant they are soft and inconspicuous.

Mr. Don suggests that the Onoceris *salicifolia* of Humboldt and Kunth may be a species of this Genus, an opinion in which I quite agree with him, though the little aculei of the receptacle have been overlooked in the description. Indeed, except in the narrow and more entire leaves, it seems to agree with the present species, possessing, in fact, the peduncle and involucre of the present individual, and the foliage of the subject of our next plate.

Our plants of C. *reflexum* were cultivated in the stove, and produced their handsome, fragrant flowers, smelling like Hawthorn, late in the Autumn, when they died, without producing seed. Mr. Murray considers it to be truly annual.

Fig. 1. Section of an Involucre and Receptacle. 2. Floret of the Disk. 3. Inner side of the extremity of a Floret from the Disk, showing the deeper cleft. 4. Inner view of the Anthers. 5. Floret of the Ray. 6. Portions of the Pappus:—*Magnified.*

3115.

[illegible] del. Pub. by S. Curtis, Glazenwood Essex, Nov.r 1. 1831 Swan sc.

CENTROCLINIUM APPRESSUM. CLOSE-PRESSED-SCALED CENTROCLINIUM.

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Class and Order.

SYNGENESIA SUPERFLUA.

(Nat. Ord.—COMPOSITÆ. Div. LABIATIFLORÆ.)

Generic Character.

Involucrum subglobosum vel cylindraceum arcte imbricatum. *Flosculi disci* tubulosi, 5-dentati, hinc profundius fissi ; *radii* 7—12 bilabiati, labio *interiore* minutissimo bipartito erecto, (dein revoluto ?) exteriore longissimo trifido. *Antheræ* biaristatæ. *Stigma* integrum. *Pappus* inæqualis, scaber. *Receptaculum* spinulis mollibus hispidum. Herbæ ? v. Frutices, *Peruvianæ.* Folia *petiolata subtus albo-tomentosa.* Pedunculi *solitarii axillares vel terminales uniflori.* Flores *fragrantes speciosi :* Radius *purpureo-roseus.*

Specific Character.

CENTROCLINIUM *appressum ;* fruticosum, foliis lanceolatis subintegerrimis, pedunculis nudis, involucri squamis erectis appressis.

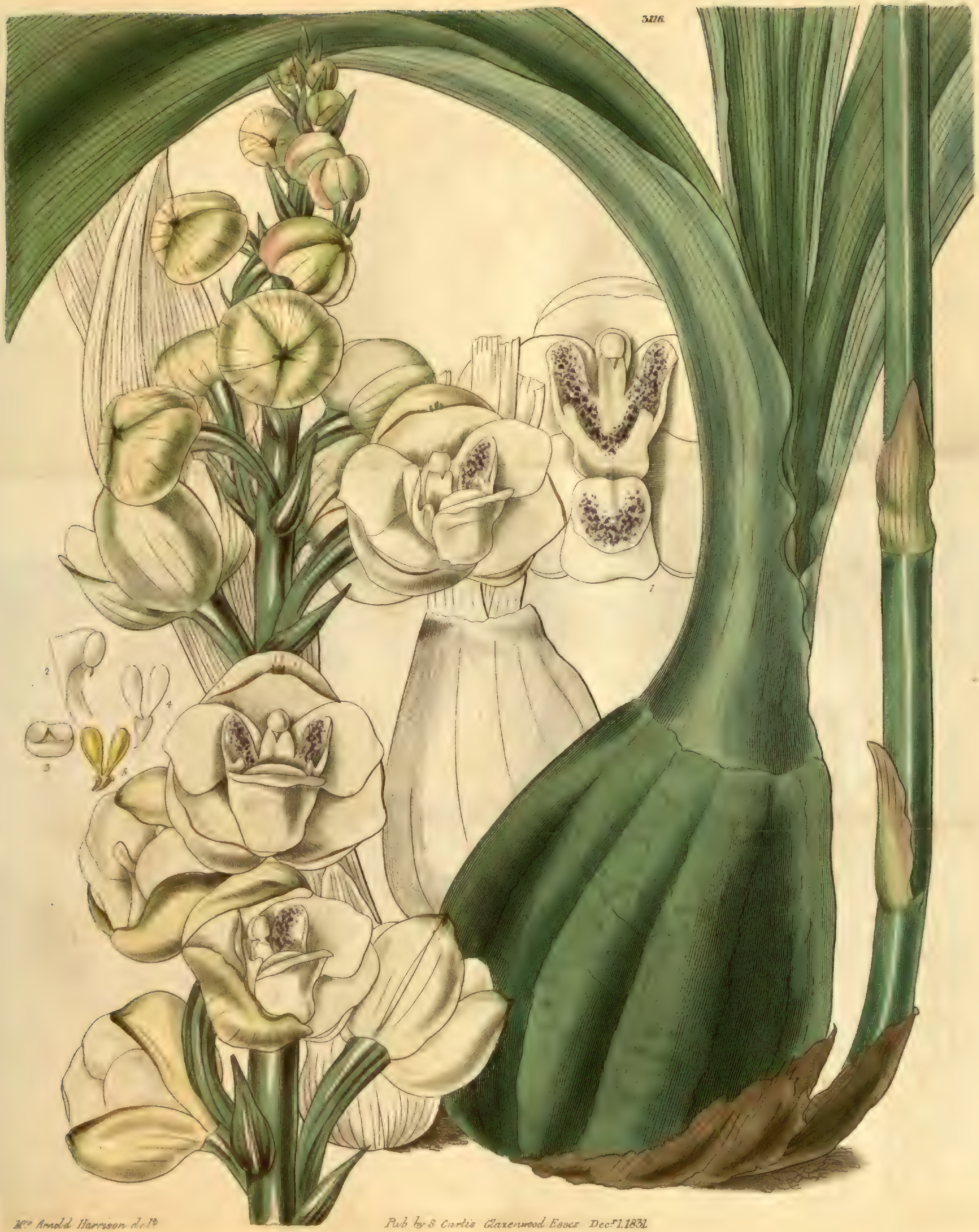
DESCR. *Stem* shrubby, one to two feet high in our stove, with white, woolly branches, and numerous patent or reflexed *leaves,* three inches or more long, lanceolate, waved, and nearly entire, partially glabrous and green above, pure white and cottony beneath. *Peduncle* solitary, terminal, or, from the prolongation of a shoot beneath it, axillary, woolly, naked, single-flowered. *Flower* large, fragrant. *Florets* of the *disk* and of the *ray,* similar to those described under C. *reflexum.* *Involucre* cylindrical, imbricated with many close-pressed, subulate scales. *Receptacle* with soft, small aculei.

This species, for which we are indebted to Mr. CRUCKSHANKS, who brought the seeds from Peru, is undoubtedly, a perennial and frutescent plant. It blossomed for the first time, imperfectly, in December 1830, and again, with larger flowers, in June, 1831.

It appears to differ from Mr. DON'S CENTROCLINIUM *albicans* in its entire leaves, and from ONOSERIS *angustifolia* (HUMB. and KUNTH,) principally in its larger and broader foliage. It is certainly a very desirable stove plant, no less on account of its beauty than its fragrance.

Fig. 1. Floret from the Disk. 2. Floret from the Ray. 3. Portion of ditto, to show the inner Lip :—*magnified.*

3116.



Mrs Arnold Harrison delt

Pub by S Curtis Glazenwood Essex Decr 1, 1831.

Peristeria elata. Lofty Dove-Flower.

* * *

Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Flores subglobosi. *Petala* subcarnosa, 3 ext. æqualia, valde concava, 2 int. lato-obovata. *Labellum* obovatum, carnosum, truncatum, cum basi columnæ articulatum, disco cristato crasso. *Columna* basi petalorum adnata, apice solummodo libero, inferne longe producta, insigniter dilatata alata, alis erectis obtusis carnosis crassis intus unidentatis. *Anthera* bilocularis. *Massæ pollinis* 2 clavatæ, compressæ, hinc lateraliter fissæ.

Specific Name.

Peristeria * *elata.*

Descr. A parasite. *Bulb,* when it has attained its full size, as large as a swan's egg, broadly ovate, green, obscurely striated and somewhat wrinkled, having at its base the remains of old, membranous, sheathing *scales,* at the summit bearing from three to five *leaves,* which are from two feet to forty inches in length, and six inches in breadth at their greatest diameter, lanceolate, or almost sword-shaped, acute, with several strong ribs, prominent at the back, and having many plicæ and striæ; the outer ones sessile and sheathing, the inner tapering at the base into a sort of petiole. From the base of the bulb arises the *flower-stem* or *scape,* four feet high, terete, glabrous, having below three or four large, sheathing, membranous scales, and at the extremity a *spike* or *raceme* a foot in length, of large, yellowish-white, almost globose, fleshy *flowers*, yielding a peculiar fragrance, somewhat resembling that of the NUPHAR *lutea*. *Bracteas* much shorter than the germen, ovato-acuminate, often carinate, rigid, green tinged with purple. The three outer *petals* of the flowers are broadly ovate, almost rotundate, very concave, the two inner ones rather more delicate, broadly obovate, all of them subconnivent. *Lip* erect, broadly obovate, truncate, erect, thick and fleshy, having a large excrescence or protuberance, somewhat wrinkled, on the disk, often sprinkled with deep purple dots, which reach to the base, where the *lip* is jointed upon the prolonged base of the column. *Column* adnate with and decurrent upon the bases of the petals, its upper part alone free and standing forward nearly horizontally, the rest is extended downwards, remarkably dilated and thickened, bearing on each side two large, fleshy *wings*, which are erect, and reach nearly to the top of the column, rounded at the apex, below the middle bearing a conspicuous tooth: the whole is of the same waxy white with the petals, but the upper or inner side of the wings is beautifully sprinkled with deep purple dots. *Anther* hemispherical, white, two-celled. *Pollen-masses* 2, clavate, flattened, with a fissure at the outer margin, deep yellow, waxy, firm, fixed upon an oblong-acuminate membrane, with its margins recurved; this projects beyond the anther-case, so as to resemble the beak of a bird. *Germen* cylindrico-clavate, furrowed and slightly twisted.

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* From περιστερα, *a dove,* from the resemblance in the shape of the column to that bird.

In the year 1826, HENRY BARNARD, Esq. of Truxillo in Peru, communicated to RICHARD HARRISON, Esq. of Liverpool, a bulb of a remarkable, parasitical, orchideous plant, which he had found in the neighbourhood of Panama, and the flower of which is there looked upon with no little consideration, and known to the inhabitants by the name of "*el Spirito Santo.*" The reason for this appellation was quite obvious on the blossoming of the plant, which did not occur in Mr. HARRISON's stove, until the summer of the present year, 1831, when the centre of the flower exhibited a column which, with its summit or anther, and the projecting gland of the pollen-masses, together with the almost erect wings, bore a striking resemblance to a Dove, the emblem of the third person in the Trinity. *El Spirito Santo* was therefore applied by the same people, and in the same religious feeling as, dictated the naming of the "*Passion-Flower.*"

So soon as the curious flowers were fully expanded, Mr. HARRISON, with his usual kindness, forwarded me a specimen; together with an excellent drawing from the pencil of Mrs. ARNOLD HARRISON. This is, in part only, copied, to suit the plate of the Magazine; and therefore but imperfectly represents the stately appearance of the original. For this species is no less remarkable among Orchideous plants for its stature, than for its large and copiously flowering spike.

Being unable to find any Genus of the ORCHIDEÆ which corresponds with it, I have ventured to give it a Generic name significant of the dove-like appearance of the column of fructification.

It is to be hoped, now that Mr. HARRISON has so successfully cultivated this rarity from the tropical parts of America bordering on the Pacific, that Mr. BARNARD will further the cause of Science by collecting and introducing to our stoves other plants of the same family, and which bear a long voyage better than many less interesting tribes.

Fig. 1. View of the Column and Lip, the latter bent down. 2. Side view of the upper part of the Column and Anther. 3. Anther-case. 4. Upper, and 5, underside of the Pollen-masses: *magnified.*

3117

Pub by S. Curtis, Glazenwood Essex Decr 1. 1831.

OROBUS CANESCENS. CANESCENT BITTER-VETCH.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. campanulatus, 5-fidus, lobis 2 superioribus brevioribus. *Cor.* papilionacea. *Stam.* diadelpha. *Stylus* gracilis linearis apice villosus. *Legumen* cylindraceum oblongum 1-loc. bivalve polyspermum. *Semina* hilo lineari.—Herbæ *erectæ.* Stipulæ *semisagittatæ.* Petioli *in setam brevem simplicem desinentes.* Folia *abrupte pinnata paucijuga.* Racemi *axillares pedunculati. De Cand.*

Specific Character and Synonyms.

OROBUS *canescens;* caule tetragono, foliis subtrijugis, foliolis linearibus obtusiusculis pubescentibus vel punctato-rugosis, nervis parallelis, stipulis semisagittatis linearibus acutis petiolum alatum subæquantibus, pedunculis 3—5-floris folio duplo longioribus, dentibus calycinis latis tubo brevioribus, leguminibus rectis compressis glabris longitudinaliter reticulato-venosis.

OROBUS canescens. *Linn. Fil. Suppl. p. 327. Willd. Sp. Pl. v. 3. p.* 1075. *Benth. Cat. Pl. Pyr. p.* 110. *De Cand. Prodr. v. 3. p. 379.*

OROBUS ensifolius. *Lapeyr. Mem. du Mus. v. 2. p. 303. t. 12. (excl. var. β.)*

OROBUS atro-purpureus. *Lapeyr. Abr. (non Desf.)*

OROBUS filiformis. *Lam. Fl. Fr. ed. 2. p. 568. Spreng. Syst. Veg. v. 3. p. 258.*

DESCR. *Root* perennial, throwing up several four-sided and striated, simple, glabrous *stems,* about a foot high.

Leaves remote, almost sessile, pinnated with two or three pairs of opposite, linear, sword-shaped, closely-striated, scarcely pubescent *leaflets*: the *rachis* or common *petiole* short, tipped with a mucro. *Stipules* narrowly semisagittate. *Peduncles* often more than twice the length of the leaves, bearing a rather close *raceme* of four to eight large and very beautiful *flowers*. *Calyx* glabrous, two upper teeth shorter than the rest. *Vexillum* ample, and, as well as the *alæ*, rich purple, becoming more blue when fully expanded. *Carina* almost white, purple only at the edges. *Style* remarkably dilated upwards, more so than in most of the *Lathyri*.

Our Glasgow Botanic Garden is indebted to Mr. FISCHER of Gottingen for the possession of this most desirable species of OROBUS, which produces its large and highly coloured blossoms in May and June. It is said to be a native of the South of Europe; but chiefly, as it would appear, of the Pyrenées. Mr. BENTHAM gives it as inhabiting the central parts of that great chain. SPRENGEL adopts the name of O. *filiformis* of LAMARCK for it; and it must be confessed that the appellation given by LINNÆUS is far from appropriate.

The habit of this plant and the absence of tendrils proclaims it to be an OROBUS; but the style, remarkably dilated upwards, is altogether that of a LATHYRUS.

Fig. 1. Calyx and Carina; *nat. size*. 2. Front view of the Style. 3. Back view of the same:—*magnified*.

3118.

[illegible]

Pub by S Curtis Glazenwood Essex Dec.r 1. 1831.

CEPHALOTUS FOLLICULARIS. FOLLICLED CEPHALOTUS.

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Class and Order.

DODECANDRIA HEXAGYNIA.

(Nat. Ord.—ROSACEÆ.)

Generic Character.

Calyx coloratus 6-fidus, æstivatione valvata. *Pet.* o. *Stam.* 12, perigyna : *Antherarum* dorso glanduloso. *Ovaria* 6, distincta, monosperma, ovulo erecto. *Styli* terminales. *Br.*

Specific Name and Synonyms.

CEPHALOTUS * follicularis. *Labill. Fl. Nov. Holl. v.* 2. *p.* 7. *t.* 145. *Br. Rem. on Bot. of Terra Austr. p.* 68. *t.* 4. *De Cand. Prodr. v.* 2. *p.* 591.

DESCR. *Root* perennial, somewhat fusiform, the upper part dividing, as it were, into two or three short *stems,* which bear a cluster of elliptical, lanceolate, petiolated, entire, thickish, nerveless, purplish *leaves ;* and amongst these, but principally occupying the circumference, are several beautiful and highly curious pitcher-shaped appendages or operculated *ascidia,* attached by rather stout *petioles* where the lid unites with the margin of the ascidium. Their form is ovate or somewhat slipper-shaped, between foliaceous and membranaceous, green tinged with purple, furnished with two lateral oblique wings and one central one, the latter remarkably dilated at the margin, and all

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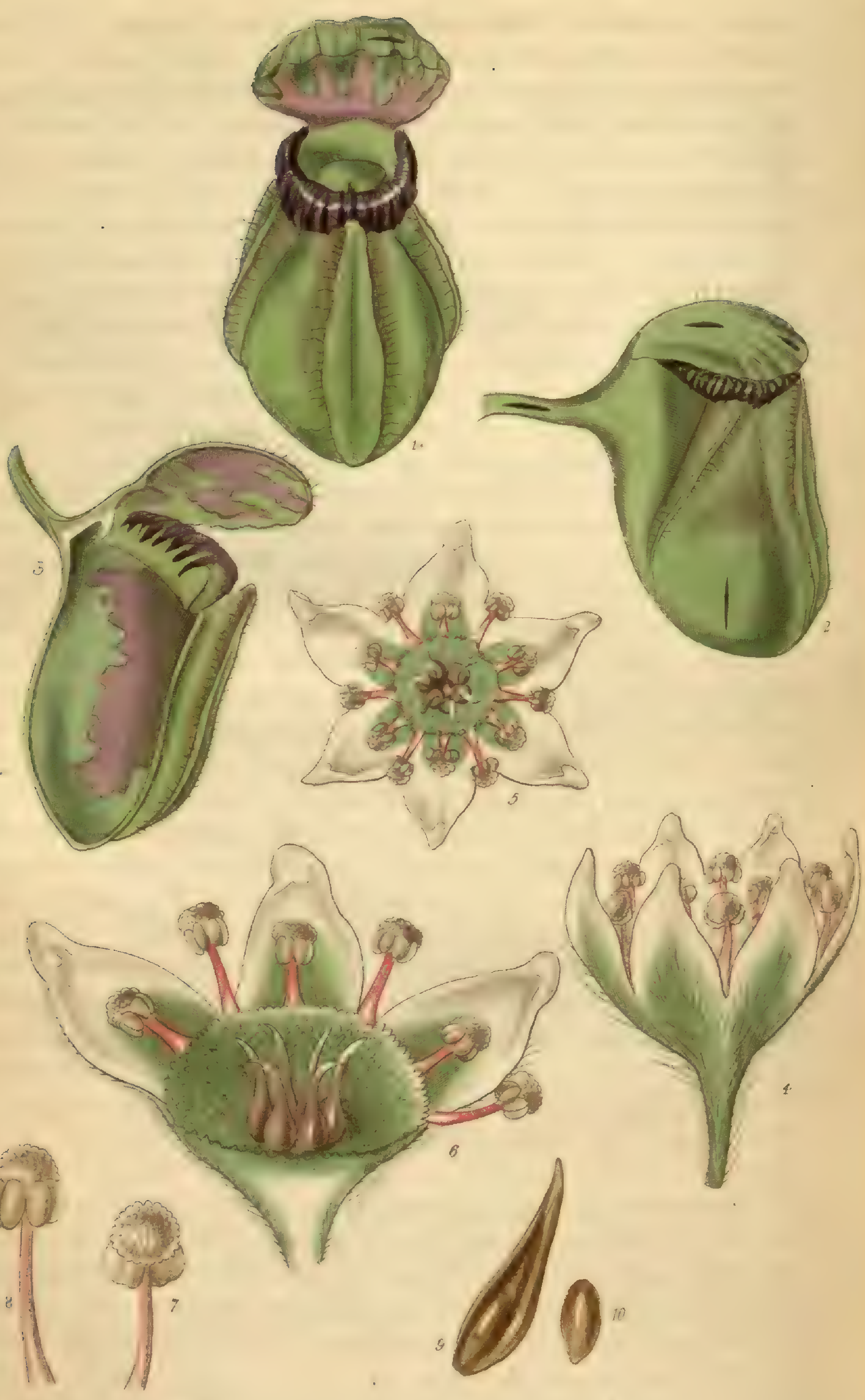
* Derived from κεφαλη, *a head,* and ους, *an ear ;* on account of the glandular head of the anthers.

beautifully fringed with hairs. The inside, which contains a watery fluid and entraps many insects, especially ants, is clouded with dark purple. The *mouth* is contracted, horse-shoe-shaped, annulated and crested with several deep, sharp, vertical annuli, of a dark purple colour, smallest near the base of the lid, three of them, which are opposite the wings, larger than the adjoining ones ; all of them forming a sickle-shaped point within the mouth. Lid plano-convex, green without and a little hairy, within clouded with purple, marked with broad veins which are somewhat dichotomous, the margin scalloped ;—at first it closes the mouth of the ascidium, and afterwards becomes nearly erect. *Scape* one to nearly two feet high, erect, terete, downy, bearing a compound, spicate *raceme* at the extremity, and one or two subulate *bracteæ* in its lower half. *Branches* very short, downy. *Calyx* small, hairy, greenish-white, deeply five-cleft, the segments ovate, erecto-patent, obtuse, the points thickened : the base or *tube* within has a thickened green disk, covered with small papillæ, at the margin of which the twelve *stamens*, alternately shorter, are inserted : all shorter than the calyx segments; those opposite the calyx-segments the longest. *Filaments* subulate, purplish rose-coloured, glabrous. *Anthers* two-celled, didymous, subglobose, in part concealed by a large fungose, globose excrescence (the *connectivum*); those of the longer filaments rather the largest. *Pollen* globose. *Pistils* six, small, arranged in a circle around a small tuft of hairs, purplish. *Germen* ovate, glabrous, tapering into a somewhat recurved *style* : *Stigma* obtuse. " *Ovule* erect, almost as large as the cell, and containing within the membranaceous testa a little, pendulous sack, of the same size as the cavity of the testa." *(Br.)*

For our first knowledge of this rare and highly curious plant, having the ascidia or appendages of the famous NEPENTHES, but belonging to the Natural Order ROSACEÆ, we are indebted to M. LABILLARDIERE, who discovered it in " Leuwin's Land," and figured and described it in his " Specimen of the Plants of New Holland." Mr. BROWNE, during his voyage with Capt. FLINDERS detected it on nearly the same line of coast, namely, " in the neighbourhood of King George's Sound, especially near the shores of Princess Royal Harbour, in 35° S. lat. and 118° E. long.; beginning to flower about the end of December." From specimens there gathered, the species has been illustrated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W.J.H delt.   Pub by S Curtis. Glazenwood Essex Decr 1 1831.

by that profound Botanist, so as, aided by the pencil of Mr. Bauer, to leave nothing to be wished relative to its structure, save what might be obtained from a knowledge of the seed, which is still a desideratum.

Capt. King brought over living plants of Cephalotus to the Royal Gardens of Kew in 1823, which flowered in August, 1827. From those individuals and the drawing liberally communicated by Mr. Aiton, and some noble dried specimens from King George's Sound, for which I am indebted to Mr. Fraser, the accompanying figures and description have been made.

Recently, I believe, growing plants have been brought home by Mr. Baxter, which are flourishing at the Clapton Nursery.

Tab. 3118. Plant: *nat. size.* Fig. 1. Upper part of a Scape, the Flowers yet unexpanded (from Mr. Bauer's figure.)

Tab. 3119. Fig. 1. Front view of an Ascidium. 2. Side view of ditto. 3. Vertical section of the same, *slightly magnified.* 4. Outside view of a Flower. 5. Vertical view of ditto. 6. Vertical section of ditto. 7. A shorter Stamen, seen from behind. 8. Longer Stamen, seen in front. 9. Pistil, laid open to show the Ovule. 10. The Ovule (from Mr. Bauer's figure): more or less *magnified.*

3120.

W. J. H. delt.

Pub by S. Curtis Glazenwood Essex. Decr 1, 1831

Swan sc.

BANKSIA MEDIA. INTERMEDIATE BANKSIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Perianthium 4-partitum (raro 4-fidum.) *Stamina* apicibus concavis laciniarum immersa. *Squamulæ* hypogynæ 4. *Ovarium* uniloculare biovulatum. *Folliculus* lignosus: *Dissepimento* (e testis ovulorum amborum formato) libero bifido. *Amentum* flosculorum paribus tribracteatis. *Br.*

Specific Character and Synonyms.

BANKSIA *media;* foliis cuneato-linearibus truncatis dentato-serratis basi attenuatis: subter reticulatis venis venulisque glabratis laciniis tomentosis, perianthii unguibus sericeis; laminis glabris, folliculis glabriusculis immersis, floribus marcescentibus. *Br.*

BANKSIA media. *Br. Prodr. Fl. Nov. Holl. Suppl. p.* 35.

DESCR. This appears to constitute a large *shrub,* or small tree, with rather thick, rounded *branches,* clothed with a thin pale tomentum. *Leaves* scattered, four to six inches long, linear-cuneate, coriaceous, rigid, often truncated at the extremity, the margins coarsely dentato-serrated, almost spinulose, the base attenuated into a very slender, pale yellow-green *petiole:* the upper side is glabrous, dark green, and glossy, very obscurely veiny, below paler, the veins and veinlets glabrous, the areolæ or lacunes filled with white down. *Flowers* of an uniform, rather pale, and dull yellow, densely collected into a broadly-oblong, terminal *head. Scales* very hairy, deep orange. *Perianth* slender, silky, tubular at the base; the laciniæ filiform, spathulate at the extremity, and there hollowed for the reception of the anther. *Style* as long as the perianth.

For a fine specimen of this, likewise accompanied by a drawing, I am indebted to W. T. Aiton, Esq. It was received at Kew from Francis Henchman, Esq. in 1824: the seeds having a short time previously been gathered, on the South-Western Shores of New Holland, between Cape Arid and Lucky Bay, by Mr. Baxter.

It is nearly allied to B. *marcescens,* (already figured at Tab. 2803 of the present work) between which and B. *attenuata* it is placed by Mr. Brown. At Kew Gardens its flowering season is August.

Fig. 1. Flowers with their accompanying Bracteas. 2. Part of a segment of the Perianth with its Stamen: *magnified.*

3121.

W.J.H del.

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Swan Sc.

(3121)

BAPTISIA PERFOLIATA. PERFOLIATE BAPTISIA.

Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. semi-5-fidus, bilabiatus. *Cor.* papilionacea, petalis longitudine subæqualibus: *vexillum* lateribus reflexis. *Stamina* decidua. *Legumen* ventricosum, pedicellatum, polyspermum. *Br.*

Specific Character and Synonyms.

BAPTISIA * *perfoliata;* foliis perfoliatis integerrimis subrotundis. *Br.*

BAPTISIA perfoliata. *Br. in Hort. Kew. ed.* 2. *v.* 3. *p.* 5. *De Cand. Prodr. v.* 2. *p.* 100. *Spreng. Syst. Veg. v.* 2. *p.* 347. *Elliott, Cav. v.* 1. *p.* 467. *Lodd. Bot. Cab. t.* 1104.

RAFNIA perfoliata. *Willd. Sp. Pl. v.* 3. *p.* 949.

PODALYRIA perfoliata. *Mich. Fl. Am. v.* 1. *p.* 263. *Pursh, Am. v.* 1. *p.* 307.

SOPHORA perfoliata. *Walt. Pl. Car. p.* 135.

CROTALARIA perfoliata. *Linn. Sp. Pl. p.* 1003.

CROTALARIA perfoliata folio. *Dill. Elth. p.* 122. *t.* 102. *f.* 122.

DESCR. *Root* perennial. *Stems* herbaceous, erect or declined, slightly branched, mostly near the base, about a foot high: the branches terete, glaucous, glabrous, as is every part of the plant. *Leaves* broadly oval, or almost orbicular, simple, entire, pierced by the stem at some distance from the margin, hence perfoliate and secund, large in proportion to the size of the plant, often emarginate at the inferior edge, glaucous-green, veiny, the veins or nerves somewhat radiant. *Flowers* solitary, axillary, erect. *Peduncle* short, slender, erect. *Calyx* in four somewhat equally-sized, rather spreading teeth, the upper tooth again bidentate. *Corolla* pale yellow. *Petals* nearly equal in length: the *Vexillum* shortest, roundish, carinated, emarginate, the sides somewhat reflexed and concave. *Alæ* oblong-oval, closed upon the carina, which is obovate. *Stamens* ten, equal: *Filaments* free, standing close together. *Anthers* oval, deep orange. *Pistil* about as long as the stamens. *Germen* linear-oblong, pedicellate, about as long as the subulate *style*, which is curved upwards. "*Legume* inflated, large. *Seeds* reniform, very small." *(Elliott.)*

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* From βαπτω, *to dye*, on account of the peculiar properties of some species.

Roots of this singular plant were obligingly sent to our Glasgow Garden by the late STEPHEN ELLIOTT, Esq. and by Dr. WRAY, of Augusta, from Georgia, where it grows in dry sandy hills. Coming from so Southern a latitude, it might well be supposed to be a tender plant; and, indeed, as such it is considered by Mr. LODDIGES, requiring the protection of a greenhouse. With us, in the peat border of the American ground, it has survived two winters, and flowers in great perfection during the months of July and August. The blossoms are neither large nor showy, but the foliage, of so unusual a character for a leguminose plant, and of a tender glaucous-green colour, renders it eminently deserving a place in every garden.

Fig. 1. Flower. 2. Vexillum. 3. Inner view of a Wing. 4. Calyx and Carina. 5. Calyx and Stamens. 6. Pistil:—*magnified.*

W.J.H. del.
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Swan Sc.

MONNINA OBTUSIFOLIA. BLUNT-LEAVED MONNINA.

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Class and Order.

DIADELPHIA OCTANDRIA.

(Nat. Ord.—POLYGALEÆ.)

Generic Character.

Flores resupinati. *Cal.* 5-sepalus deciduus, sepalis 2 internis alæformibus, 3 exterioribus ovatis, 2 quorum sæpe coalitis. *Petala* basi connata, medio concavo sæpe 3-dentato. *Stam.* 8, filamentis subdiadelphis pilosiusculis. *Drupa* 2-loc. 2-sperma aut abortu 1-loc. 1-sperma, interdum margine membranaceo cincta. *Semen* fere ex apice loculi pendulum. *Albumen* nullum. *De Cand.*

Specific Character and Synonyms.

MONNINA * *obtusifolia;* fruticosa, ramulis foliisque glabris (vel puberulis) oblongis obtusis basi cuneatis obsolete venosis, spicis solitariis. *Kunth.*

MONNINA obtusifolia. *Humb. et Kunth, Nov. Gen. v. 5. p.* 411. *De Cand. Prodr. v.* 1. *p. 339.*

MONNINA nemorosa. *Hook. in Bot. Misc. v.* 2. *p.* 208. *(vix Humb. et Kunth.)*

HEBEANDRA phyllireioides. *"Bonpl. in Mag de Gesellsch,* 1808, *p.* 42."

DESCR. This forms a small, upright, somewhat frutescent, slender and dichotomously branched *shrub; branches* glabrous or very obscurely pubescent, slightly tinged with purple. *Leaves* obovate, obtuse, attenuated into a short *petiole,*

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* According to the Flora Peruviana, this plant is named from MONNINO, Count de Flora Blanca, a Spaniard, who was a patron of Botany.

petiole, quite entire, scarcely more than one inch long, often glabrous, but sometimes minutely and indistinctly pubescent. At the base of the petiole, on each side, is a prominent, fleshy, roundish gland, depressed in the centre. *Racemes* terminal, solitary, slender, more or less peduncled. *Bracteas* very deciduous. *Pedicels* short, curved downwards, so that the *flower* is drooping. Three outer segments of the *calyx* small, greenish-purple, oblong, two inner ones very large, petaloid, roundish, attenuated at the base, deep bluish-purple, spreading. *Corolla* of three, or rather, perhaps, of five, reddish-purple *petals,* united into one hollow *keel,* within which are the *stamens,* combined below into one body, the free part of the *filaments* slender, incurved, hairy at their base. *Anthers* oblong, opening by a pore at the extremity. *Pistil: Germen* oblong; *style* curved almost like the letter S, incrassated above, with a tooth on each side. *Stigma* obtuse, yellow.

This pretty plant, with its small but bright-coloured flowers, blossomed in the stove of the Glasgow Botanic Garden, in June, 1831; having been raised from seeds brought from Lurin, near Lima, by our valued friend Mr. CRUCKSHANKS, during the preceding year.

I had in the Botanical Miscellany referred the dried specimens from the same country, though not without hesitation, to the M. *nemorosa* of HUMBOLDT and KUNTH: but the living plant, seeming to accord better with the M. *obtusifolia* of the same authors, I have, therefore, here adopted that name.

Fig. 1. View of the upperside of a Flower. 2. Underside of ditto. 3. Side view of a Flower. 4. Corolla, laid open. 5. Stamen. 6. Pistil. 7. Gland, from the base of the Petiole:—all more or less *magnified.*

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Pl.
3048 Loasa, hoary.
3057 ———— hispid.
3075 Lobelia, salver-shaped.
3056 Lupine, Mr. Cruckshanks' Peruvian.
3090 Melon-Thistle, greater Turk's-cap.
3073 Mexican-Poppy, large-flowered
3067 Monkey-flower, perfoliate.
3122 Monnina, blunt-leaved.
3108 Nierembergia, slender.
3055 Nothoclæna, thin-leaved.
3089 Olive, wavy-leaved, fragrant Cape.
3109 Oncidium, two-horned.
3100 Palavia, rhomb-leaved.
3071 Physic - Nut, eatable-rooted, Bitter Cassada, Manioc, or Tapioca.
3066 Pladera, decussate.
3085 Pterostylis, nodding-flowered.
3086 ———— short-lipped.
3064 Purslane, Dr. Gillies'.
3079 Rhipsalis, cluster-branched.
3078 ———— Fig-marigold-like.
3080 ———— naked.
3106 Rhododendron, Lapland.
3113 Salpiglossis, entire-leaved.
3111 Sapota, common or Bully-tree.
3112 Ibid.
3070 Schizanthus, acute-petaled.
3045 ———— blunt-petaled.
3044 ———— Dr. Graham's.
3042 Sphenogyne, Sampire-leaved.
3101 Spleen-wort, Bird's-nest.
3094 Slipper-wort, narrow-flowered.
3072 Star-Apple, broad-leaved.
3077 Star of Bethlehem, hairy-leaved.
3082 Sun-dew, forked-leaved.
3104 Torenia, rough.
3096 Tournefortia, Heliotrope-like.
3097 Trillium, green-flowered.
3054 Tupistra, drooping.
3043 Urena, angular-leaved.
3062 Vernonia, sharp-leaved.
3103 Woodbine, hairy American.
3088 Xanthochymus, sweet-fruited.